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INTELLIGENCE
DIVISION

PURCHASING

SINCE 1915 • THE NATIONAL MAGAZINE FOR PURCHASING AGENTS



THIS MAGAZINE IS KEPT ON FILE
DO NOT

Herb McGill
—see page 19

Photo by Bachrach

DECEMBER 1938

Vol. VI No. 12



*"Republic has
Simplified
our Purchases!"*

PRODUCTS OF NILES STEEL PRODUCTS DIVISION THAT YOU SHOULD KNOW ABOUT

A complete line of shipping containers—including pails, pour-spout pails and drums, full removable head light gauge drums and a full line of one-time shipper steel barrels—plain, lithographed, printed and with special lacquer coatings. Stampings and pressed steel parts for every purpose.

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You'll be dealing with an organization that accepts full responsibility for its products—because from ore to finished product, every step of manufacture is in a Republic plant.

And you'll have only one order to write, one shipment to trace, one invoice to check and one check to write. Let us send you the complete list of Republic products. Just ask for a copy of Booklet No. 199. Republic Steel Corporation, Cleveland, Ohio.



When writing Republic Steel Corp. for further information, please address Department EP



It Keeps A Lake From Leaking

A typical example of Goodrich development in rubber

THREE million pounds of water hammer at this 27-foot valve of steel. Open, it lets water rush past to drive the turbines of the vast Conowingo power dam. Closed, it must hold this mighty force in check so that workmen can safely get into the turbines for repairs.

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Transmission belts with 5 times the former flexing life, conveyor belts which carry twice as many tons, hose to meet dozens of special needs, pipe and gaskets which prevent leaks for years—these are typical products of the Goodrich research which your distributor can put to work for your immediate profit. The B. F. Goodrich Company, Mechanical Rubber Goods Division, Akron, Ohio.

Goodrich
ALL *products* *problems* IN RUBBER

(Another story of Goodrich development work appears on page 56)

PURCHASING

Established 1915 as "The Purchasing Agent"
Consolidated with "The Executive Purchaser"

PURCHASING is an independent journal, not the official organ of any association. It is the only publication of national scope devoted exclusively to the interests and problems of the purchasing executive in industry and government.

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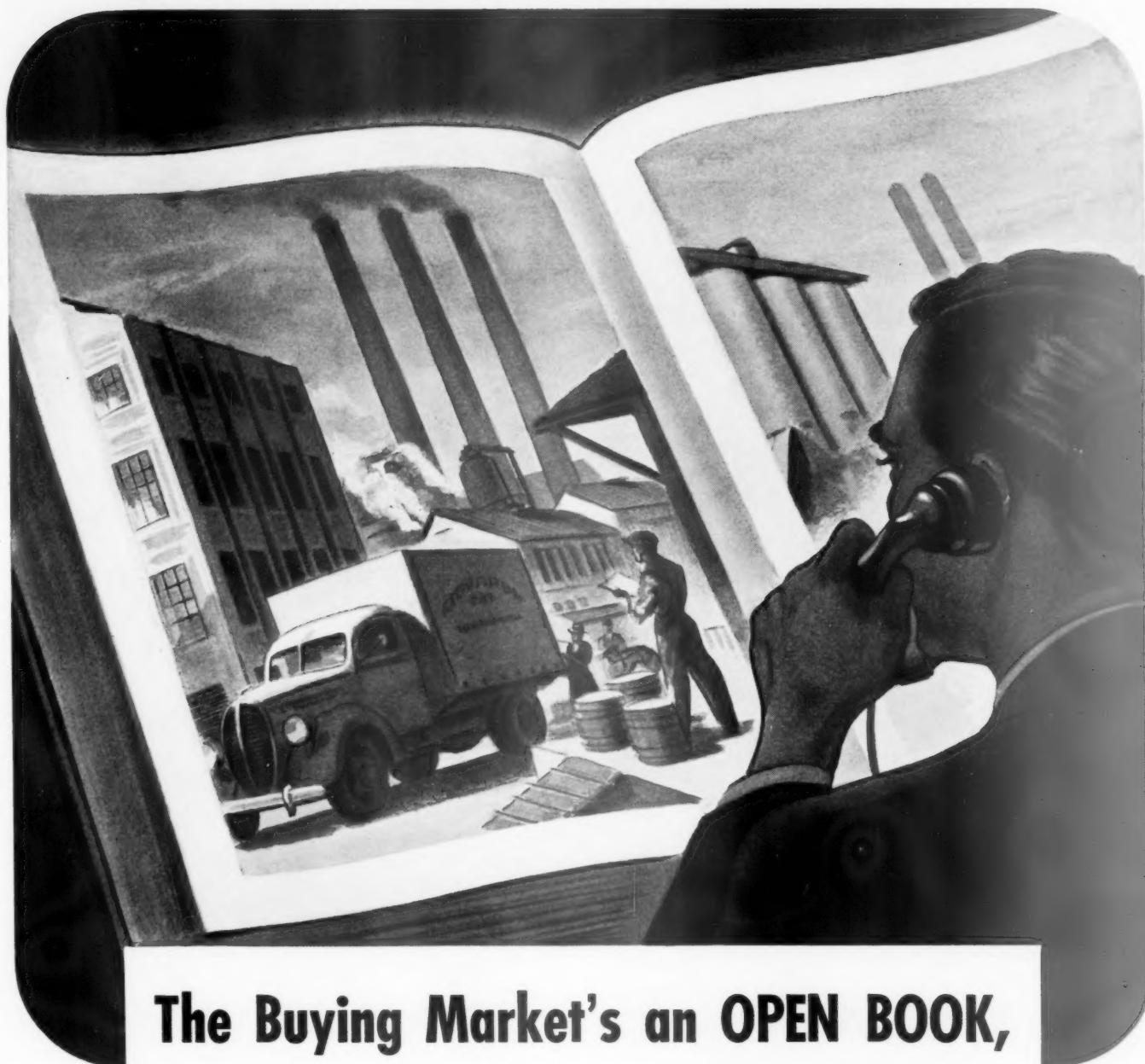
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VOLUME VI
NUMBER 12

December 1938

15c A COPY, \$1.00 A YEAR
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The Buying Market's an OPEN BOOK, when you use *Long Distance*

Purchasing executives have found Long Distance telephone service an accurate "supply-locator." They say that the market becomes an OPEN BOOK to them when they turn to the telephone.

By Long Distance they are able to cover ever-widening areas . . . to keep closely informed of the quality and price of products . . . to secure advantageous

payment and delivery terms . . . to build and retain good-will . . . and, frequently, to pick up valuable information before its official announcement.

That's why Long Distance . . . *rapid, clear, direct, and personal* . . . is in favor with purchasing men. Employ it systematically and discover its real *economy*.



Yours on Request

Purchasing agents will find it well worth their while to read the publications reviewed on this and the following pages. From among the many submitted to us, they have been selected by the editors as having greatest interest and utility value to purchasing agents.

To obtain copies, simply fill in and mail coupon at the bottom of this page.

469. The Lunkenheimer Co. has recently issued a new 44-page List Price Schedule which supersedes all previously published list prices. It covers the entire Lunkenheimer line of valves, boiler mountings and lubricating devices.

470. The new Brown & Sharpe No. 000 Plain Milling Machine is described in detail in an attractive, profusely illustrated 8-page bulletin. This machine has been designed specifically for the economical, rapid production milling of small pieces such as parts for sewing machines, firearms, electrical apparatus, business machines, etc. Broad ranges of speed and feed enable it to handle efficiently a wide variety of materials, using cutters down to the smallest end mills.

488. "Helpful Hints on Sealing Methods," a new folder just issued by Moore & Thompson Div. Hudson Pulp & Paper Corp., offers valuable pointers and suggestions on the proper use of gummed paper tape, with a view to better protection of packages and saving through avoiding waste.

492. The history and development of phosphor bronze is recounted in the Seymour Phosphor Bronze Manual, which answers questions concerning non-corrodibility, resilience, fatigue resistance, machinability, toughness. Also contains data, tables, list of applications, etc.

493. "Checking Up on Check Valves," an 8-page, 8 1/2" x 11" booklet just issued by Crane Co., covers the whole check valve field in word, picture and diagram. The two basic types of check valves and their various applications are described, ten "Do's and Don'ts" are listed and a two-page "Handy Reference Guide to Crane Check Valves" is devoted to cross-section views.

522. Large artistic photographs that bring beauty to commonplace products distinguish the handsome new 100-page catalog of Upson Bolts, Nuts and Rivets recently released by Republic Steel Corp. The most widely used of the 5,000 standard items in Upson's stocks, covering every conceivable type of bolt, nut and rivet, are represented in this book, which is a valuable and convenient guide to every buyer of these products. Numerous tables of dimensions and weights are included, plus information on plating and special metals, such as Toncan copper molybdenum iron, Enduro stainless steel, Republic double strength steel.

530. In 20 large, easy-to-read, well illustrated pages, 11" x 12 1/2", Hygrade Sylvania Lamp Co. outlines the "Hygrade Proposition to Lamp Buyers," in which 6 major questions of concern to lamp buyers are answered in detail. The questions cover the history, growth and financial standing of the company, operating policies, the product, research, service facilities, saving in cost. A complete schedule of prices is included.

534. The new "Type D" Norton Roll Grinding Machines, with traversing work tables, are described in detail in a splendidly illustrated 16-page 8 1/2" x 11" bulletin. Complete specifications, shipping data and floor space for all models are given.

541. In easy-to-find indexed form the Scully Steel Products Co. presents a heap of information of value to all buyers of steel via its new, comprehensive Stock List and Reference Book, which gives a long list of Scully Products, such as sheets, bars, angles, wire, stainless, eaves trough, copper and brass. Also contains many handy reference tables including standard gauges, length of rivets necessary for various grips, weights of steel circles, circumferences and areas, U. S. gallons in round tanks, U. S. gallons in rectangular tanks, etc.

542. One of the most voluminous wholesale merchandise catalogs ever issued is Joseph Hagn Co.'s 640-page 1938 Jewelry and Gift Book. In addition to diamonds, watches, jewelry and silverware, this book also shows a large selection of furniture, apparel for men and women, toys, electric appliances, leather goods, luggage, prizes, premiums, etc., including many nationally advertised items.

549. John B. Kennedy, renowned commentator, interviews "Cappy" Walsh, General Purchasing Agent of the Pennsylvania Railroad, in a refreshing folder entitled, "He Buys Pins—and Locomotives. . . !" released by the Ediphone Div., Thos. A. Edison, Inc. In the famous "Kennedy" style, the folder relates his conversation with Mr. Walsh, in which the latter explains how and why Ediphones serve the Purchasing Department of the Pennsylvania Railroad.

550. Containing 66 pages, the new Operators Handbook on truck, bus and farm and industrial tractors, just published by B. F. Goodrich Co., features a table on the effect of load and speed on tire service, with percentages of recommended maximum loads at maximum sustained speeds to obtain normal tire service. Among the subjects discussed are: how to prevent truck tire failures, including the heat-speed problem; development of the new Goodrich Hi-Flex tire cord and its relation to the heat-speed problem; methods of correctly calculating truck tire costs; load analysis, load and service diagrams, load ratios and inflation pressures; specifications and data for tires for all commercial uses.

551. "Facts About Shipping Boxes," a handsomely and profusely illustrated booklet issued by Hinde & Dauch Paper Co., features a "check list" for buyers, enabling them to use facts as a yardstick in measuring factors that determine shipping box quality. The factors included in the "check list" are: raw materials, super-processing, engineering research, designing facilities, factory locations, service, each of which are discussed individually.

552. Three new, interesting folders are announced by C. Howard Hunt Pen Co. The first describes the new BOSTON Silver Comet pencil sharpener, which incorporates a number of worthwhile improvements. The others, of interest to your drafting and engineering departments are, "Speedball Lettering and Drawing Pens with Alphabet Demonstrations" and "Principles of Pen Drawing."

557. Promoting improved safety of plant, product and personnel with modern cleaning methods and materials, "Greater Industrial Safety," a new 12-page booklet just released by Oakite Products, Inc., points out how greater safety is being secured in many different types of industrial plants, and outlines ways for eliminating common fire and occupational hazards. Operations discussed include paint stripping; cleaning machinery or similar surfaces; reclaiming oily waste and wiping cloths; removal of rust and scale from water circulating equipment; controlling bacterial growths and preventing accumulations of algae and slime deposits in recirculating water supplies; reducing cutting oil infections; cleaning floors, lighting fixtures, cafeterias.

(Additional listings on pages 6 and 8)

PURCHASING, 11 West 42nd St., New York, N. Y.

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Company

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LAST MINUTE CALL GETS SCULLY SERVICE



YOU GET SERVICE LIKE THIS FROM SCULLY
4:55 P.M. —after closing time—we received a telegraphed order for one angle and one plate. Customer must have it next morning. Scully men got it out the same night and the customer had it before starting time the next day.



**— AND REGULAR
ORDERS DO, TOO**



Just as the whistle blew in late afternoon we received a telegram for a load of plates. They went out within an hour and the customer — 425 miles away—had them next morning.

THOUSANDS of production men know that when they want steel in a hurry it pays to call Scully. Each of our eight warehouses has a huge stock of steel, steel products, and copper. Each warehouse operates on the Scully principle that when the customer is in a hurry, materials must be pre-

pared and shipped *at once*. When you say "Rush" we know you mean it.

Regular orders don't lag at Scully either. Promptness rules on every order. That's why so many plants now depend on Scully for their regular requirements. That's why it will pay you to try Scully Service, too.

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CLEVELAND • PITTSBURGH • BALTIMORE



UNITED STATES STEEL

Yours on Request

Purchasing agents will find it well worth their while to read the publications reviewed on this and the following pages. From among the many submitted to us, they have been selected by the editors as having greatest interest and utility value to purchasing agents.

To obtain copies, simply fill in and mail coupon at the bottom of this page.

558. An extremely attractive new folder issued by Howard Paper Co. stresses the importance of good paper and appropriately designed letterheads in developing business good will and includes samples of letterheads on Howard Bond. The latter is available in six different finishes and fourteen colors.

559. Thousands of suggestions for Christmas gifts, sales prizes, premiums, birthday and anniversary gifts, sports awards, etc., appear in the new and larger Yebion & Co. 1939 Distributors' Catalog. Featuring a complete line of diamond merchandise, this distinguished catalog also shows watches, jewelry, clocks, silverware, leather goods, electric appliances, trophies, etc.

560. Six new additions to the line of Stanley Safety Electric Saws are presented in an 8-page illustrated bulletin, offering detailed descriptions of applications, special features and applications. One of the models shown is the Electric Stone Saw, adaptable for cutting limestone, random ashlar, sandstone, marble, slate, roofing tile, asbestos roofing, transite panels, freestone, etc.

569. Purchasing agents who have been using L. & C. Mayers' Co.'s Trade Catalog will welcome the 27th Annual Edition just published. This handsome new 385-page book illustrates a vast array of new merchandise suitable for Christmas gifts for customers and employees, as well as for all-year-round needs such as sales and sport prizes, special company awards and presentations, general personnel requirements, etc. Diamonds, watches, jewelry, silverware, electric household appliances, clocks, leather goods, luggage, radios, glassware, smokers' articles, lamps, trophies, etc., are included among the host of articles shown.

572. A clear desk for purchasing agents and other officials is made possible by the new personal "Executive File" that places every important paper at your finger tips. Illustrated and described in a 4-page folder issued by Automatic File & Index Co., the "Executive File" is desk high, equipped with silent gliding casters, a cover and a lock, alphabetical guides, also automatic expanding drawers for convenient, easy finding and filing as well as 20% greater capacity.

575. Bennett Bros. new 1939 "Blue Book," illustrating several thousand articles excellently adapted for gifts, awards, sales promotion uses, prizes, personnel needs, etc., is now available. Many new items are included in the extensive lines of diamonds, watches, jewelry, silverware, electrical appliances, leather goods, and other wares represented in this annual merchandise catalog.

578. A clever chart that shows mill and factory applications features Birdseye Electric Co.'s folder, "Advanced Industrial Illumination," which stresses the advantages of Birdseye Reflector Lamps. No exposed reflectors, no reflector maintenance, minimum light absorption and maximum light on the job are claimed for these inside-silvered, self-reflecting lamps.

579. Twenty-one "star" features of the new and complete line of Model V Mixers offered by the Ransome Concrete Machinery Co. are graphically shown in Bulletin No. 154 just issued by that company. The 16-page, two-color bulletin in effect dismantles this equipment to show the detail of construction and operating features by photograph and diagram, and explains the mixing action which is said to result in a better mix and higher production with economical operating costs and low maintenance.

580. Catalog No. 39 of the U. S. Leather Products Co. presents a complete line of hand luggage, leather goods, fitted cases, utility cases, brief cases in standard and zipper models and in a variety of styles for business, school and professional use. The merchandising plan provides for individual purchases by employees through purchasing departments where the catalog is on file. 20 pages, 9" x 12", the catalog is completely and colorfully illustrated.

581. The Buda Company is distributing Bulletin 868A, a profusely illustrated 8-page booklet describing the Buda-Hubron Earth Drill, a machine for drilling holes up to 42 inches in diameter and up to 50 feet in depth. A variety of photographic reproductions show the wide variety of uses for which this equipment is adapted—such as pole line construction, foundation work, pre-boring for piles, guard rail installations, blasting operations, pipe line work, and the like.

582. Bulletin No. 1193 of the Allis-Chalmers Mfg. Co., Switchgear Division, describes and illustrates their uniquely designed Synchro-Operator for automatically paralleling AC generators, synchronous condensers, tie lines and frequency changers. This speedy automatic device does away with the usual hazards of manual synchronizing in any type of generating plant. The bulletin includes a wiring diagram and details the many advantages inherent in this equipment.

583. Manufacturing, storage and shipping operation are served with flexibility, safety and economy by the new Hi-Lift electric hoists described in Catalog H-106 of the Northern Engineering Works. A table of ratings and dimensions is given for the wide range of standard models, from 1,000 to 30,000 pounds capacity and in a variety of hoisting speeds. Typical applications are shown by photographs of installations in diversified industries.

584. Procedures for producing all types of welds in mild steel, for welding practically all metals used to any extent industrially, and for applying surface metal to meet varying types of wear-action in service, are set forth in Bulletin 401-A just received from the Lincoln Electric Co. The recommendations are practical, complete and yet concise. The properties of welds produced in various metals are given and typical welding applications are illustrated. The bulletin likewise presents a comprehensive line of arc welding electrodes, accessories, and protective clothing for welding operations.

585. High duty magnetic clutches and combination clutchbrakes are fully described and illustrated by photographs, diagrams and specification tables in Bulletin 225, a 16-page booklet recently published by the Stearns Magnetic Mfg. Co. A variety of applications are shown, including use with packaging machinery, woodworking plants, steel mills, textile operations, rubber mills, power presses, etc.

(Additional listings on pages 4 and 8)

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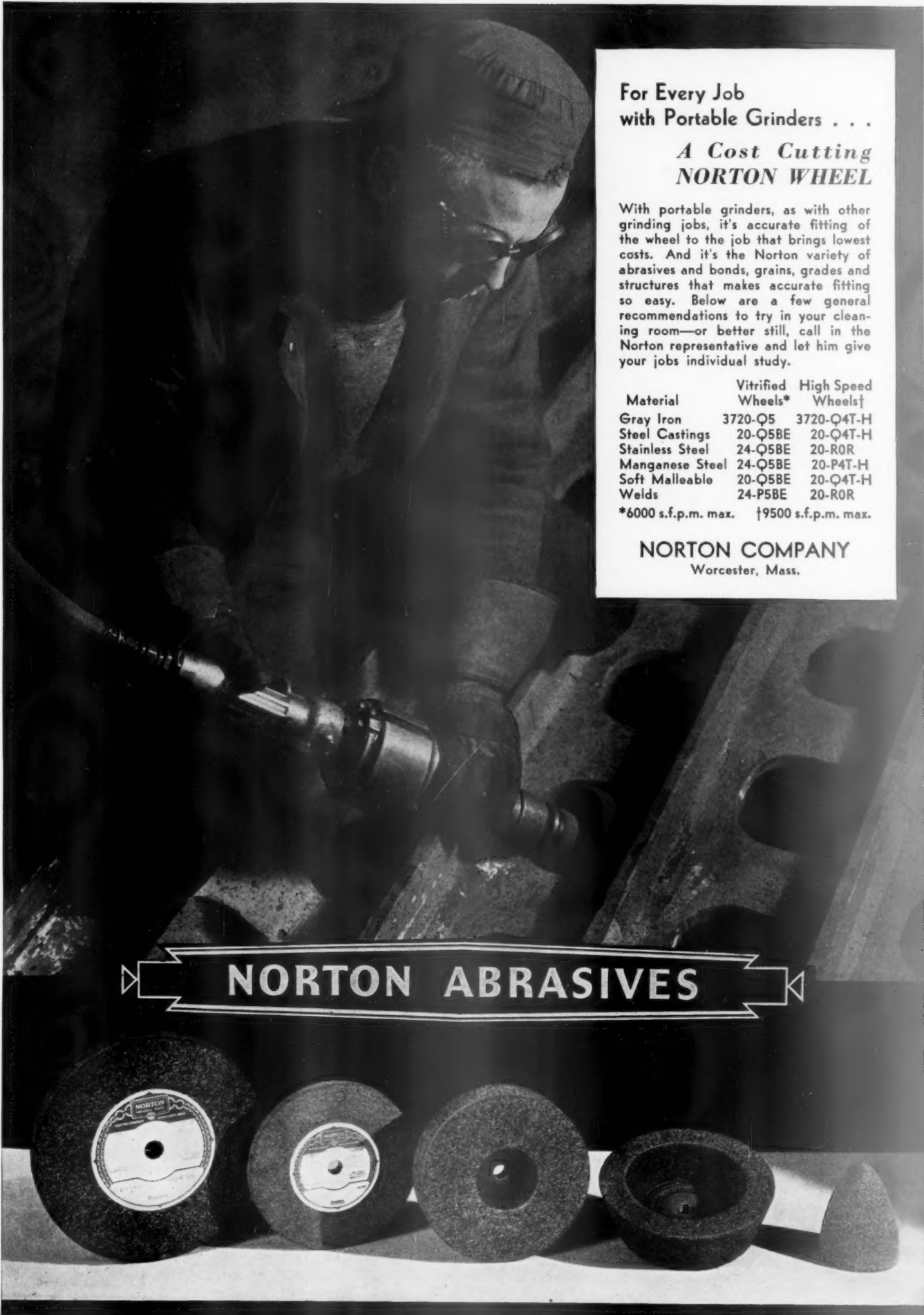
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Company

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For Every Job
with Portable Grinders . . .

*A Cost Cutting
NORTON WHEEL*

With portable grinders, as with other grinding jobs, it's accurate fitting of the wheel to the job that brings lowest costs. And it's the Norton variety of abrasives and bonds, grains, grades and structures that makes accurate fitting so easy. Below are a few general recommendations to try in your cleaning room—or better still, call in the Norton representative and let him give your jobs individual study.

Material	Vitrified Wheels*	High Speed Wheels†
Gray Iron	3720-Q5	3720-Q4T-H
Steel Castings	20-Q5BE	20-Q4T-H
Stainless Steel	24-Q5BE	20-R0R
Manganese Steel	24-Q5BE	20-P4T-H
Soft Malleable	20-Q5BE	20-Q4T-H
Welds	24-P5BE	20-R0R

*6000 s.f.p.m. max. †9500 s.f.p.m. max.

NORTON COMPANY
Worcester, Mass.

NORTON ABRASIVES

Yours on Request

Purchasing agents will find it well worth their while to read the publications reviewed on this and the preceding pages. From among the many submitted to us, they have been selected by the editors as having greatest interest and utility value to purchasing agents.

To obtain copies, simply fill in and mail coupon at the bottom of this page.

586. A new line of oil and chip brushes is illustrated in a folder issued by the Torrington Brush Works. Used to apply lubricant to a cutter or drill, or for dusting out chips and getting into narrow spaces, these items are particularly convenient in machine shops.

587. A colorful brochure from the Bradley Wash-fountain Co. introduces a new space-saving fixture of the semi-circular wall type, 36 inches in diameter, easily fitting into a small washroom yet accommodating three users simultaneously. There are two types, with hand or foot control, in standard or de luxe model, and constructed of enameled pressed iron or of stainless steel.

588. Newly issued data sheets on the Rockwood Sprinkler Company's "Dualguard" remote control system for fire hose stations are particularly timely with the advent of freezing weather. Applicable to both hydrant and standpipe systems, this device permits constant and adequate water protection without the hazard of freeze-ups and the consequent failure of the stream when needed as well as damage through ruptured equipment. A pneumatic station located at the hose reel transmits an air pressure impulse to the deluge valve, safely installed in a heated or insulated location, and water is instantly delivered through the piping system. The equipment has passed rigid Underwriters' tests.

589. "Power by Smith" is the title of a handsomely designed and printed book describing Smith-Kaplan adjustable blade turbines constructed by the S. Morgan Smith Co. 56 pages, 8 1/2" x 11" carry a comprehensive treatise covering the principles of design, details of construction, operating results, typical settings, installations in power and industrial applications including the famous Bonneville Dam project on the Columbia River near Portland, Oregon, and shop views showing the process of construction. The entire treatise is generously illustrated, and includes a number of significant comparison curves showing the power and performance of these units. A list of representative installations embraces all sections of this country from New England to the Pacific coast, as well as Canada.

590. A new Tap Data Booklet issued by The Winter Brothers Co., presents in convenient form (pocket size, 28 pages) a variety of practical and useful information for the user of threading tools. The principles and suggestions included represent the cumulative experience of more than a third of a century of practical tapping and tap making, and are calculated to enable the user to obtain greater production and more satisfactory results on his tapping jobs. In line with the essentially informative nature of the booklet, a minimum of space is devoted to advertising.

591. A striking broadside, 20" x 25", printed in two colors, introduces a new series of pipe threaders developed by the Ridge Tool Co. Complete information is given regarding these new tools, of all-steel and malleable-alloy construction, which will thread four sizes of pipe, from 1" to 2", with one set of chasers. There is a choice of two practically automatic workholders—cam or plate type, and the chaser dies fit any make of poster threaders.

592. A 4-page bulletin issued by The Foxboro Company describes the new Portable Indicating Potentiometer, an instrument for testing and standardizing service instruments and thermocouples. Stressing the light weight of the instrument (only 12 1/2 pounds complete), the bulletin explains its usefulness for temperature measurement and for checking calibrations. A full page is devoted to schematic drawings of suggested hook-ups for the various uses.

593. A new series of three folders prepared by The Leland Electric Co. are devoted respectively to Leland Thermomatic Motors, providing automatic protection against motor overloads, Capacitor Motors, and Split Phase Motors. Attractively printed in color, the various types are shown with a variety of optional mountings, special features of design are set forth, and the details of construction and performance are listed.

594. "Here's how you can use Air Express for more business, bigger profits" states the opening sentence of a new folder of the Air Express Division, Railway Express Agency, Inc. Nine case histories are briefly reported in which these results were attained by speedy delivery of spare parts, merchandise, samples, newsreel films, perishable goods, etc. A route map vividly shows the network of scheduled lines which reach virtually every section of the country, coast to coast and border to border.

595. Advantages of the new nickel-molybdenum alloy used in a line of high strength, heavy duty sling chains adapted to use by machinery builders, steel mills and foundries, are set forth in an attractive illustrated four-page bulletin of Joseph T. Ryerson & Son. In addition to a "safe working loads" table and specification chart, complete data is given on all chains carried in stock by Ryerson for immediate shipment.

596. Yale & Towne Mfg. Company's new Cable King wire rope electric hoist, air cooled, is announced in a 6-page folder giving descriptive specifications, a large phantom view showing details of construction and assembly, and photographs of the various models available—lug and hook type suspension, plain or geared trolley, motor driven trolley, or winch type base mounting. A table of standard capacities, lift and speeds is also included.

597. The new KIMPAK portfolio prepared by Kimberley-Clark Corp. presents actual samples of this light and resilient crepe wadding material in a range of thicknesses from single sheet to 20 ply, standard and backed with a tough sheet of kraft. The distinctive features—soft, snowy whiteness that lends an air of rich luxury to the merchandise packed in it, as well as its outstanding protective qualities—are readily visualized, and a number of representative photographs show its use in connection with fragile toiletries, highly polished surfaces, fine furniture, and other types of products.

598. Bulletin No. 945 of the Buda Co. presents the "Chore Boy," a three wheel shop truck powered with a two-cylinder gasoline engine which will run all day on a single gallon of gasoline. Compact and fast, the design permits exceptional ease of maneuvering in the many tight corners of the average industrial plant and offers an exceptionally convenient and economical means of handling light loads under these conditions.

(Additional listings on pages 4 and 6)

PURCHASING, 11 West 42nd St., New York, N. Y.

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COMMODITY PRICES

-- in --

1939

?

WHY NOT make inquiry about the McGill Commodity Service which is now providing industrial and commercial organizations throughout the country with dependable price analyses and forecasts?

IF YOU DO you will find a service admirably suited to fit your individual requirements. Regularly scheduled bulletins give you the continuity of advices so important in today's rapid price changes.

NO COST is attached to requests for full information about this service. We will send you specimen releases and a list of some of the typical organizations using our counsel year after year.

McGILL COMMODITY SERVICE - *Auburndale, Mass.*

EFFICIENT BUYING IS THE KEY TO PROFITS TODAY



Now you can be sure . . .

You can depend on better results in less time when your heat treater is guided by the Ryerson alloy data charts. These charts show him the exact properties of the steel with which he is working and show him how to get the desired results. He does not have to test. He takes no chances. Spoilage is eliminated and a sound dependable job of high accuracy and uniformity is assured.

In addition to saving in production costs, the Ryerson Certified Alloy Plan benefits the Purchasing Department, as they can keep a detailed record of the exact analysis of every alloy purchased. Thus it is possible to duplicate particularly desirable close range specifications on repeat orders.

The Metallurgical Department is benefitted for they can call for any reasonable physical requirement and be sure the Heat Treater can produce the required properties.

Ryerson Certified Steels also include carbon, tool and stainless steels that meet definite quality standards. They offer many advantages to steel users. Let us send you a booklet which tells the complete story.

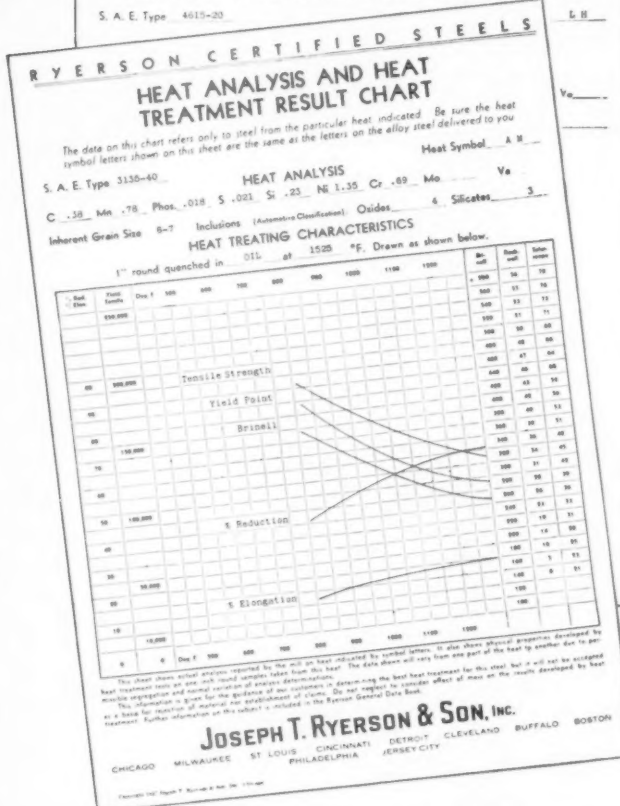
Joseph T. Ryerson & Son, Inc. Plants at: Chicago, Milwaukee, St. Louis, Cincinnati, Detroit, Cleveland, Buffalo, Boston, Philadelphia, Jersey City.

RYERSON CERTIFIED STEELS

HEAT ANALYSIS AND CARBURIZING DATA SHEET

The data on this chart refers only to steel from the particular heat indicated. Be sure the heat symbol letters shown on this sheet are the same as the letters on the alloy steel delivered to you.

S. A. E. Type 4415-23



Special Ryerson Data Sheets

While two heats of an alloy steel may be almost identical in chemical analysis, one may be much more responsive to heat treatment. For this reason, Ryerson data sheets show actual heat treatment results.

Two types of data sheets are used, one for the carburizing steels which gives complete analysis and the results of carburizing tests. The other, which is for the higher carbon steels, shows actual quenching and drawing results. Both charts are accurate guides that help the heat treater save time in securing desired properties.

RYERSON *Certified* STEELS

Better and Bigger Business

THE success of the monopoly inquiry, which enters the phase of public hearings at Washington this month, will depend to a great extent on keeping a clear distinction between monopolistic practices and the mere element of size in an organization. That distinction is not always made. The two factors are frequently coupled in loose popular thinking which accepts without critical analysis the facile Brandeis phrase, "The curse of bigness," and that line of thought is further stressed by recent activities of pressure groups of small business men. Yet there is no essential connection between the two, and if the deliberations of the National Economic Committee are permitted to stray off on this tangent, their conclusions are likely not only to be rather wide of the mark, but to render an actual disservice to our national economy.

Dr. Thorp's introductory statement pictures our business structure as being made up of more than two million individual enterprises, 76% of which have nine or less employees. In a sense this makes us a nation of small business. But those 76% of employers account for only 11% of the total working population—less actual jobs than are provided by the $\frac{1}{20}$ of 1% of employers in the highest bracket, whose workers make up 12.3% of the total. It is fairly obvious that the unemployment situation—our basic social and economic problem of the moment—must find its solution in the realm of large scale enterprise. That is further borne out as we see the automobile industry leading us out of the current emergency not only in the automobile plants themselves, but in the thousands of smaller industries and manufacturing operations that feed this giant business.

But there are other economic problems too—such as a reasonable price ratio to keep the channels of trade open for volume business, to broaden markets, to raise the standard of living, and to assure a more general and equitable distribution of wealth. And that's a purchasing job. By and large, good purchasing has been more effective as a practical means to this end than much of the legislation designed for the purpose. And such purchasing is a part of large scale industry.

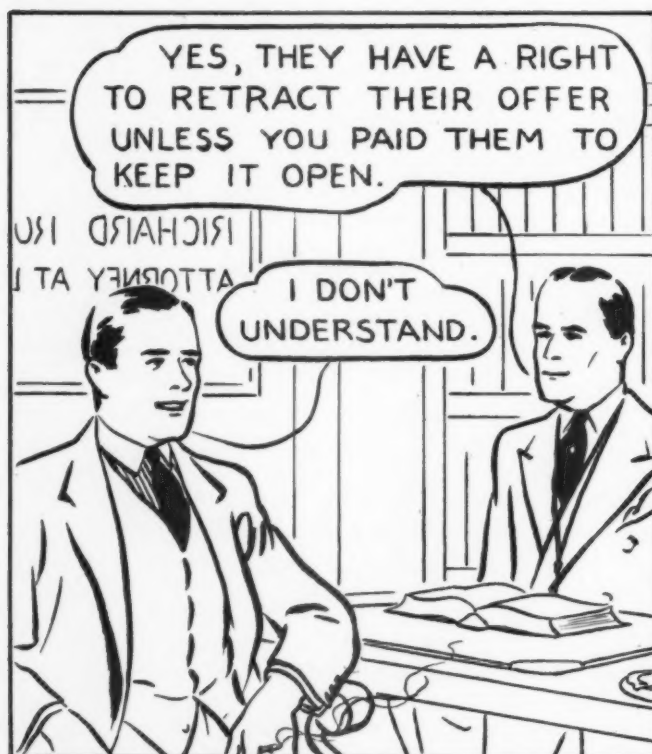
Not that good buying is exclusively a characteristic of the big concern. But purchasing as an industrial science, the specialized functional purchasing department, the centralization of buying authority—all these represent a form of organization practicable only for the larger unit. The volume of purchases which provides the economic justification, which forms one of the major bases of the profit possibilities of scientific purchasing, and which alone can support a specialized department, exists only in large scale enterprise.

At a liberal estimate there are not more than nine thousand real purchasing agents in manufacturing industry. They represent about $\frac{1}{2}$ of 1% of the total number of companies mentioned above, about $8\frac{1}{2}$ % of the units large enough to be listed in the Census of Manufactures. But they buy 65% of all the materials and supplies used in American industry. Again, large scale operations are the key to our economic recovery.

These purchasing agents stand for size, for volume that means production activity, employment and national prosperity. They also stand for competition, and will always be a most effective instrumentality for preserving the competitive system. An attack on bigness for its own sake constitutes an attack on purchasing effectiveness, and in no very indirect way will tend to undermine the forces that make for competition. Purchasing men will whole-heartedly support any program to curb the evils of monopolistic practice. But they are inseparably a part of big business, and economic recovery depends on better—and bigger—business.

STUART F. HEINRITZ, EDITOR

Pen-Points on Purchase Law



"CONSIDERATION" IS ONE of the essential elements of most enforceable contracts. If Richards says to Roberts, "I'll give you my old golf clubs when I buy the new set next week," Roberts has only the promise of a gift. He has no contract. He has not promised anything in return for Richards' promise. In other words, while Richards is promising

to give up his legal right to possession of the clubs, Roberts is merely assenting to take them and in so doing giving up no right or possession of legal consequence—no consideration. Likewise if the Richards Refining Company's promise to leave an offer open is not matched by any valuable promise or act on the part of the purchasing agent, it is not binding.

Copy by H. H. Shively, Babson Institute; drawings by G. E. Tulloch, Boston.

BUSINESS POLICIES

in a CHANGING WORLD

Underneath world-wide political unrest is a fundamentally new and constantly changing economic situation. Business leadership must be geared to meet these conditions realistically and progressively

GEORGE A. RENARD

Executive Secretary
National Association of Purchasing Agents

ADVERTISING, PURCHASING, and sales executives have an important common interest. The very fundamentals of good advertising and selling and of sound purchasing require open markets, fair competition and freedom to sell and buy on the basis of value. We can probably agree on that, but it is another one of those peculiar agreeable disagreements. We agree on the principle, the objectives; but can't go along on the methods.

Once upon a time we operated under a competitive system; but you have heard that story and how monopolistic big business and chain stores destroyed that commercial Utopia, and how the New Deal would relieve the oppressed. Now we have the peace of Munich and the purge of the New Deal. They are realities, not fairy stories or superstitions, and if we will look for the reasons for these national and international changes, we find they result from economic needs and from efforts to meet those needs.

Some people, important ones, believe the changes should be prevented. That is impossible. Others sound like an Orson Welles' broadcast, claiming the changes destroy everything. They find everything they wish to do is illegal, immoral or fattening. Others must place the blame for every change; blame business or government, labor or finance. They even glorify purchasing agents once in a while by crediting them with the power to influence, destroy or depress prices.

I wonder if we don't look for deep, complicated reasons for these changes when they may frequently be simple, with natural economic causes and practical reasons for the result.

The pricing system of the steel industry was completely changed a few months ago. Governmental pressure, cutthroat competition, purchases by the automobile and the steel drum manufacturers were a few of the reasons that came over the grapevine. I heard an entirely different version, which I believe is more nearly accurate. A prominent steel executive at a friendly conference with government officials was asked if his company's experience and profit justified the pricing system being used. He had never looked at it that way but knew that, although the industry considered it practical, the government had for years considered it uneconomic and discriminatory. Very little

checking showed their average return on the capital invested for the past 15 or 20 years was not satisfactory. Was the pricing system justified by a history of unsatisfactory profits? Hardly. The need for a change was as simple and convincing as that.

Perhaps some of our other difficult and confusing problems have simple answers, too.

We must realize the past years have given us one international crisis after another. From the Manchurian incident of 1931, we have had a succession of war scares. Mr. Hitler took control of Germany in 1933 and began to revise the treaty of Versailles and since then we have had Ethiopia, Spain, China, Austria and Czechoslovakia to give us the jitters and upset international relations, finance and trade.

There are extremely important decisions for our governments to make. We must support them, and hope that peaceful solutions can be found for these world problems. At the same time, let's be realists and face the facts. There will very probably be continued international tension and further war scares, because a world in which strong nations support such opposite principles as we find in Communism, Fascism and Democracy, with their conflicting views on capitalism, individual rights and even on religion, can hardly be a peaceful cooperative world, and international troubles are the normal rather than the unusual, so long as that situation exists.

What are the possibilities for a solution? If we are looking for an immediate solution, there is little chance because fundamental changes take time, and international trade or lack of it will probably continue to reflect these world problems and controversies. Nations which believe in democracy, capitalism and Christianity should, and probably will, draw closer together. They must stand together or fall separately. Our trade relations will no doubt follow that sentiment. Keep this straight: political trends in governments follow economic needs; and political leaders, even though they are demagogues, secure power through

promises and efforts to relieve the economic needs of their people.

Economic conditions create political leaders. Political leaders do not create or control economic conditions. For twenty years, the world's economic and financial structure and important governmental structures have been dislocated by the effects of the World War, and all important nations have been attempting to avoid these depressing and punishing effects by one emergency measure after another.

As a result, the entire world has been moving through a social revolution with the capitalistic system being abandoned to communism; being completely subjected to governmental control of prices, production, profits and, even wealth, as in fascism; and being taxed and regulated in an effort to make it work and eliminate its excesses and abuses, as well as its defects, in democracies. Our New Deal is an instance of that. It is fundamentally a class conflict between the "haves" and "have nots" which we find between nations and between individuals within nations; between the owners of capital and the people who demand a larger income from the wealth and production of their nation or of the world.

Capitalism on Trial

The capitalistic system with individualism developed two major defects. It increased the production of goods and wealth without developing methods for distribution of that wealth, so that the goods could be consumed. That created the second and fatal defect; the unequal distribution of wealth and failure to consume the goods produced results in depressions, which have become more frequent as the maladjustments between production and consumption increased.

As soon as production stops or slows down to correct the situation, depression starts and millions are unemployed and dependent on government. There is where the political element enters, it attempts to relieve the economic distress created by the admitted defects in our national and international economies.

Political actions have been insane if we look at them calmly. We have destroyed cotton and wheat or restricted their production, and we have increased the production of rayon and substitute agricultural products. South American countries have destroyed coffee and raised cotton and wheat. In industrial production, the attempts to become self-sufficient have been even more ridiculous. We have adopted tariffs, quotas, exchange controls and even currency depreciation to protect these economic experiments.

These emergency protective measures have only postponed the day of reckoning for they have not solved the problem. They placed additional restrictions and handicaps on international trade and exchange. They further reduced consumption and, therefore, increased idleness. Idleness for men, factories and acres.

Spending was resorted to by all capitalistic nations. Some spent for unemployment and agricultural relief and building programs. Others spent largely on ar-

mies, navies and armaments. But there is a limit to spending borrowed money, even for nations. Those which were weakest financially were naturally the ones to spend their available funds for armaments, for protection; or rather for aggression. They must have materials and they must have markets.

The nations without adequate materials and markets could paint a pretty good picture of oppression to their people and, without financial resources to secure materials, they have resorted to force.

Nothing has yet happened that will reduce the armament race and assure world peace. Two avenues are open. There is a theory often used in business that if you can't defeat an opponent or the cost is too great, you should develop a cooperative attitude and consolidate forces. Many suspect this is the reasoning of the English Government in dealing with Hitler. The other alternative must eventually be followed if we are to have peace and avoid world bankruptcy. A strengthening of Germany may be the first step in this direction, for we must change this trend toward nationalism, tariffs, quotas and exchange restrictions to one assuring greater freedom for international trade.

We must have a settlement of the oppressive and destructive war debts, indemnities and penalties, as a basis for world stabilization and freedom of exchange. The first move in that direction should be the creation of more freedom in trade and exchange between countries in the Dollar-Sterling Block, which includes most of the democratic nations. Treaties for that purpose are being negotiated, and businessmen can very well prove they do recognize their social responsibility by not permitting selfish interests to hinder arrangements so essential to national and international welfare.

Leadership by Democracy

The economic and financial advantages and protection of the powerful group of capitalistic and democratic nations can then be extended to other nations which adopt and follow our fundamentals on capitalism and freedom of trade. If it is denied to those which don't, this may easily become the most important force in a final and satisfactory solution of these dangerous international problems.

I don't believe the most recent reports from Germany change that picture, horrible as they are. The war mongers and the Jew baiters are the same crowd, and they are a minority that is in power. I lived with Germans all my life, and that does not represent them any more than the Ku Klux Klan or Al Capone's mobs represented us several years ago.

To retain control, the German leaders were willing to plunge the world into war. Mr. Chamberlain prevented that with the help of President Roosevelt and Mussolini. Defeated in that direction, they are beating the nationalistic tomtoms by creating and persecuting imaginary enemies. I know my opinion is not Kosher on this, but I think Mr. Hitler's satellites are whistling in the dark as they pass a graveyard full of economic and financial tombstones.



You wouldn't do business with an unfair company, so why do business with an unfair country? I think that is the only practical solution.

But certainly no one expects to go back to the conditions of the Versailles Treaty any more than we can expect to go back to our own domestic conditions of the twenties, and we must realize that the production and distribution of both agricultural and industrial products will be directed more and more by nations, by society; and less and less by individuals. That is a definite and probably a permanent trend. The defects of our individualistic capitalistic economy with more and more frequent periods of overproduction, unemployment and distress must give way to a more socialized economy.

Communism and Fascism are extremes of socialized economy. Democracy can be socialized, too, without the loss of liberty; and that is a very definite trend in the democracies of the world. It is their only defense against more extreme forms of socialism, and the best attack on them, because of the value that has always been placed on liberty by all civilized people, throughout history. But this situation will not clear up overnight. Trade and exchange between nations may be disturbed and dislocated periodically for some time, for no reduction in armament has taken place and the cost is terrific, so the strain may crack one or more nations.

Revaluation and devaluation of currency values are a probable result. In fact, we are now witnessing a revaluation of the British Pound. Certainly, if there is to be a four-power peace treaty, it must be based on stabilized economic and financial factors, with the United States participating directly or indirectly

through trade and stabilization agreements. What effect changes in exchange rates will have on commodity prices is unknown now, but that it will have some effect, is definitely known and is an important factor in the purchase of international materials.

Economic Revolution

The headlines call our attention to the revolutionary political changes which are taking place. The economic changes are just as revolutionary, probably more so, and, in many instances, they are the basic reason for the political changes.

Much of the commercial development of the British Empire was to a very considerable extent based on coal. Coal furnished English industry with power, and coal furnished the fuel for British ships. Even more important, coal furnished cargo for their return voyages so that bulky raw materials could be imported and manufactured goods could be exported at low and competitive freight rates.

What has the introduction of new fuels and new sources and markets for fuels meant in the creation of the present day problems of Great Britain?

What has the development of synthetic rubber done? Nobody knows—except that it has relieved Germany's dependence on British and Dutch interests for this essential commodity.

What will the new development of synthetic silk do to Japan? Possibly more than all the diplomats or armies and navies could do to influence them.

Coming closer to home, what has happened to cotton? Several countries now produce it and all important countries produce rayon—a substitute. Cotton may become the basic raw material for the production of rayon, silk and paper, but what will happen to the price of cotton is in the lap of the economic gods, for governments can hardly overcome those influences for any great length of time.

With these revolutionary shifts in commodities, we also find a revolutionary or, rather, an evolutionary shift in the production of commodities. We have been trying for several years to raise the prices of our agricultural commodities, but very recently we find the prices of wheat, oats, cotton, corn and wool, are about as low or lower than they were in 1932, at the bottom of our own and the world depression. New production in other countries is responsible, and it is not confined to agricultural products. New production of manufactured materials is curtailing markets for finished materials, and exerting a pressure on their prices.

Probably the best example of shifting production is here in our country. At one time, the production of iron was centered in New Jersey, and naval stores, lumber and other important commodities, were produced almost exclusively in New England. Now we find the steel industry has outgrown its Pittsburgh and Chicago basing points and differentials, and the new shift in production and fabrication of steel may not be completed in our lifetime, but it is on the way.

Purchasing executives must attempt to analyze these shifts, must try to determine and allow for their effects. They must be realists and this is a realistic world. Some of our businessmen are like the woman who complained about the new vacuum cleaner. It took seven ounces of dirt out of the rug the first day, and only one ounce the next. There was nothing wrong with the machine, but it had cleaned up the job to be done.

Some people look for a new plan or a new prophet to overcome these difficult economic situations or, at least, accept the idea they can make a Utopia out of this world. That is impossible. Now and then some genius tells us there is a short and easy road to happiness and prosperity, but a genius is usually ahead of his time and is nearly always behind in paying his bills, and it is very generally the bills that destroy the theories.

Public Interest is Paramount

Perhaps our greatest difficulties, disappointments and controversies are caused just now by two human errors. First, we try to prevent changes which are in fact evolutionary progress instead of attempting to cushion those changes and avoid the hardships of their results. And, secondly, we judge business by its successes and judge government by its failures.

If we are fair, we can find much that is good in either government or business, and soiled spots in both. Just as government must accept large scale business as an economic necessity, business must accept large scale government as a political necessity for democratic control. That is not a theory; it is history and experience, and is just as simple as the adage—"You can't have your cake and eat it, too."

Large business enterprise and large financial institutions operated for profit can be defended as private institutions only because there is a public need for them. Therefore, they must operate in practice as public institutions under efficient private management. If the management is not efficient, or if the business does not operate in the public interests, the private management will become subjected to governmental regulation. If that is not found to serve the public interest, they will be subjected to governmental control and direction, for the recognized inefficiency of governmental management has always been preferred to private mismanagement.

If we are to operate a capitalistic system of private business, we must restore the use and circulation of private capital into investments. We must all work to that end—capital, management, labor and government. For although you cannot see fear or lack of confidence, you can see the result of them. They are like the vitamins in food, they are intangible but their presence means the difference between life and death. It is in this area, by the creation of fear and lack of confidence, the New Deal failed.

We know the principal defect in the capitalistic system is the failure to distribute sufficient income to

permit our production to be purchased and consumed. And we know that further expansion of production can only be through expanding exports and in expanding our domestic standards of living. We can't go West to new frontiers and markets for, as a matter of fact, they have been coming this way. Therefore, the attempts by government or business, to artificially influence prices through regulations or agreements which disregard production or competition, must be accepted with some skepticism.

Just now we must determine if we want the capitalistic system and that decision must be made by both government and business. If we want the capitalistic system, we must accept its hardships and penalties, as well as its rewards, and both the New Deal and the Old Deal refused to do that. If we want the capitalistic system, we must adopt policies which conform with it and then we can make it work.

We are told that some prices are too high and others are too low. You know the answer, it's easy. Prices of the things we sell are low and prices of the things we buy are too high. Producer, distributor, consumer, labor, capital and management not only agree with that solution but they all seem to operate on that theory. Where does it take us?

We know this latest deflation or recession or depression is being charged to business, labor and government, and we might as well include agriculture, for they continually want advantages, and the A.A.A. and Soil Conservation Acts were near the head of the list of New Deal magic, to artificially influence prices. It is the artificial and uneconomic price influences that are at the bottom of our troubles, for they create maladjustments in the prices of raw materials and finished products, between industrial and agricultural products, between labor costs in one section and industry with those of others, and in income and cost of living between one group and another.

Aristocrats of Industry and Labor

These maladjustments in prices, wages, income and cost of living dry up the purchasing power of whole sections of our economy and prevent the exchange of goods and services. We know that building material and labor costs were blocking construction for some time. We know that certain materials and products are sensitive to supply and demand, while others have rigid prices and are only produced in the quantities which meet the demand. We know there can be no real prosperity with one part of business producing only the quantity that will support a price, and the other part accepting the price at which its production can be absorbed. It is there that our curious thinking develops.

For instance, we seem to find a difference between labor demanding a living wage for a 30 or 40 hour week and business demanding a profitable income from a plant operating at 50 to 60% of capacity, or the farmer demanding an income from 50 to 60% of his acres. Or the retailer or wholesaler demanding protection for

profits through fixed resale prices and through taxes and regulations on more efficient and direct methods of distribution. They all advance costs and they all advance prices, and they all advance taxes, for they all create unemployment and the unemployed can't starve and we can't destroy them. We can redistribute income and wealth all we wish to, but in the end we must create wealth by producing more, not less, if we wish to be prosperous. Any other theory for the operation of industry and agriculture through governmental controls and regulations is not capitalism and it is not democracy. We may as well face it now.

When we had a few labor organizations which secured high wages, they were the aristocrats of labor and our economy could support them. Organize all or a large part of labor and give them uneconomic wage rates and our economy cannot support it. Samuel Gompers and the American Federation of Labor have always recognized that problem, and the C.I.O. has now demonstrated it. When we had a few trade associations which secured fixed prices, they were the aristocrats of industry. Organize them all for that purpose and give them uneconomic prices, profitable prices for limited operations, sales through conferences with competitors instead of conferences with customers; and our economy can't support that, either. N.R.A. demonstrated that.

We must answer the questions: Do we want the capitalistic system? Do we want efficiency and economy to determine costs, prices and wages? Or do we want plans and regulations with the most influential, political and pressure groups securing advantages without regard for efficiency and public usefulness? In the competition for selfish advantages, can business hope to win over labor, and the farmer? Look at the record for the past several years and determine if it is advisable to enter a race when you know you have been licked before you start.

Production is the Only Way

The only real way to raise national income is to increase production and sell it at prices which will permit consumers to absorb it and clear the market. That means we must have prices, wages and costs adjusted so our production facilities in agriculture and industry, and our labor, are fully occupied and utilized. A 30 hour week won't do that, neither will 60% of plant capacity, nor will idle acres.

Give the farmer high prices and city labor buys less. Give city labor high wages and the farmer buys less. Give our distributors fixed guaranteed profits and both the farmer and city labor buy less. At least one-third of our population is in the professional and white collar class; they get soaked by all these fancy hand-outs to special groups. Do you think it is merely a coincidence that sections where share-the-wealth schemes find fertile soil and are rightfully opposed by businessmen as uneconomic, are also leaders in the movements for fair trade regulations on prices and competition? Is \$30 a week for one pressure group uneco-

nomic and \$300 a week through rigid prices which guarantee profits, sound? Hardly.

We now have numerous proposed pension schemes that are called crackpot, ham and eggs, etc. They are unsound because they take away from one group, the young and productive, to give to another group, the elderly and unproductive. They distribute wealth and make no provision for creating it. The cock-eyed rates proposed would take all the national income that isn't taken by the government in taxes.

They tell the story of the sleepy little town with three never failing sources of income. Politics, pensions and poker. But you can't have a New York, San Francisco, Chicago, Pittsburgh or other important commercial cities, built on that foundation, and we can't borrow forever, as every baby born these days has a \$500 government debt pinned on with the first diaper.

Do you need to be an economist to understand that, if either government or business insist that we produce less and get high prices for it, grass will grow on our commercial highways, and the government will go broke supporting unemployed? That ultimate possibility is one of the big reasons for lack of confidence and the short business cycles we have been having. No one dared plan far ahead.

The Mania for Stabilization

Business has always been geared to thrive and develop in a peaceful atmosphere, with stabilized conditions, stabilized tax costs and governmental regulations, and stabilized material costs or conditions which make them predictable, stabilized labor costs or conditions which make them predictable—in fact, stabilized profits or conditions which make them predictable.

We have not had those stabilized conditions, so business has been jittery and has had no confidence. It has been operating in a new and seemingly artificial atmosphere. Businessmen seem to think, or at least some of them do, that this is a temporary condition, and they can wait it out. Some even demand a return to the good old days.

I wonder if they will return, or if this is a New Deal. Can we go back with foreign governments changing currency values and preparing for another war (and we are in that picture, too)? With communication and transportation at speeds undreamed of ten years ago, can other conditions remain the same?

We have a daily letter service in New York which gives you each morning all the important statements over the radio the previous day. What a changed world that is! And how many of us realize it? Under present conditions, business sentiment and business react quickly and severely to changes—political, financial or economic. A radio speech or a press interview by the President, or a high governmental official, can change business sentiment overnight.

That may not be a good situation, but it is one we must apparently live with for a few years at least. We

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"Oh, yes. That's from Jones—he's very strong on reciprocity."

SILHOUETTE STUDIES

33: Herbert Nathaniel McGill

IF HERB MCGILL were given the opportunity to choose a life work that would offer the maximum of personal interest and satisfaction, would fit in most closely with his natural talents, and would perform the most useful service in the business world, he would in all probability elect the very work in which he is now engaged. He is doing a highly specialized and eminently useful job, and he enjoys it to the full. Yet it was pure chance, even somewhat against his own inclination, that started him on this career.

When he graduated from Newton (Massachusetts) High School in June, 1917, he had but one immediate ambition—to join the Army. His brother was already in the service, having left a good position with the Babson organization to enlist. Patriotic fervor was high. But there were family reasons that militated against a headlong rush to the recruiting office. Herb wasn't entirely convinced, but compromised to the extent of putting it off and getting a temporary summer job as assistant steward at the Annisquam Yacht Club.

It was a glorious, care-free summer for the high-spirited youngster. And while he was busying himself around the club, managing the yacht races and energetically steering the manifold social activities, his fresh, enthusiastic personality was registering on the members of the summer colony. Two of them, in particular, took an interest in the boy, talked over with him his plans for the future, and, in the course of the summer, came to him individually and offered him a place in their respective businesses.

The first of these was Roger W. Babson, the economist, whose invitation became the more insistent when he learned that Herb was a brother of the young man who had

just gone off to war from his own office. But the proposition left young McGill cold. He had, if anything, a slight aversion to the idea of statistical work, and a very understandable preference to start in on his own independent merits rather than in the role of a "kid brother" to one who had preceded him in the organization. His answer to that proposal was a courteous but positive "No."

The other man was Henry Worcester, president of the Revere Sugar Refining Company, and after a thorough consideration of the situation, McGill promised to report for duty in September. When he came, ready for work, Mr. Worcester was undecided whether to start him in the plant or in the office to get his training, and decided to put this question up to his friend and neighbor, Babson, in whose judgment he had the greatest confidence. He sent Herb to Mr. Babson's office for an interview and asked the latter to advise him as to the best course.

Babson placed the young man at a desk and turned to the telephone. McGill expressed some bewilderment at this procedure. "I'm going to call up Henry Worcester," said the eminent economist, and tell him that right here is where you belong, and that you're working for me."

The desk at which Herb was thus summarily deposited happened to be in the commodity department. Mr. Babson's insight and judgment were fully vindicated from the start. The youngster, not yet out of his teens, showed an immediate aptitude and analytical skill in the new position, and more—an intense, whole-hearted enthusiasm for the work. He has been at it continuously for twenty-one years, with conspicuous success over a period of kaleidoscopic economic

change—as head of the commodity division in the Babson organization before he reached his twenty-first birthday, and for the past ten years as head of his own commodity service. And he finds it just as absorbing today as he did when that genius and pioneer in business forecasting first showed him the picture and the story that lies behind the figures.

For the sake of completeness, Herb's unique war record should be interpolated here. He never completely gave up the idea of getting into the scrap, though he received no encouragement in this ambition. He was called to the colors late in 1918, and eagerly reported at Camp Devens. The date was November 11, 1918. Three hours later the war was over, and Herb was on his way back to the job, with an honorable discharge from the army.

PURCHASING MEN HAVE come to know McGill personally through his frequent commodity discussions at their meetings. He averages about twenty such engagements a year, and in nearly two decades he has missed only one national convention, when he was hospitalized with a bad appendix. An outstanding feature of those discussions is the question and answer period that invariably follows his general presentation of the commodity outlook. A barrage of specific and detailed inquiries concerning widely diversified fields and markets is fired at him, and he has a prompt, crisp and unequivocal answer for every one—an answer that is never a "hunch" or random opinion, but supported by the facts of the situation.

That amazing facility is no mere feat of memory, or the manifestation of a card-index brain. He is too conscious of his responsibility

in the role of adviser to depend on tricks, or formulae, or generalizations. Long familiarity with his subject has given him a comprehensive mental picture of the economic situation, and he has schooled himself to fit the day-to-day changes of the swiftly moving business world into that picture and to visualize the new conditions and trends which those changes imply. His ready confidence comes from his unswerving rule to work only on the sound and unshakable basis of complete and authoritative data.

McGill has a passion for facts. At his offices in Auburndale, Mass., a truly remarkable file of commodity information has been assembled, remarkable not only for its range and completeness, but also for its systematic organization that makes any individual item of data, however obscure and unimportant in itself, instantly available and correlated with the rest of the file. Every morning before ten o'clock, more than five hundred new and current price reports have been checked and added to the record. From established sources in this country and abroad, a constant stream of accurate and pertinent commercial information is received to strengthen and substantiate the file. And as these tabulations pass across his desk, McGill makes them his own.

Naturally he doesn't discount the importance of judgment and interpretation. The value and the zest of working with these figures lies in the living situations they represent, and the interplay of one upon another. In this he finds the same exhilaration as in a game of cards—so many known factors in your own hand, so many revealed upon the table, and unknown or variable factors to the right and left which may change the entire complexion of the deal. (Incidentally, he plays an excellent game of bridge.) The human equation must be rigidly excluded, the facts read in the light of cyclical and non-tangible factors, of economic knowledge and experience. He welcomes the necessity of keeping abreast of daily changes as a means of keeping mentally active,

though it is difficult to conceive of the keen precision of his mind as being ever anything but eagerly alive. Because he has captured the viewpoint of the purchasing man in attacking this problem, because he has the facts, and an uncommon skill in reading their significance, his work has had an unusual appeal and value to the purchasing fraternity.

A thoroughgoing realist in his insistence on the factual foundation, McGill has never been a prophet of gloom. He recognizes and points out the adverse factors, but declines to blacken the picture. He recognizes also the psychological factor of mass morale and has consistently pointed out the favorable factors as well. No blind optimist or wishful thinker, he has been true to his own buoyant nature and to his deep-rooted faith in the economic future as he has seen it evidenced in the record of the past, and in so doing he has provided a healthy leadership toward continued progress.

IN ONE OTHER respect, McGill does have a fortunate attribute of the card-index mind, and that is his ability to forget business after office hours. Despite his intense nature, he has the faculty of complete relaxation, and he can turn readily from his wrestling with some knotty business problem to the restful pleasures of trout fishing or an afternoon at golf, which he plays comfortably in the high nineties. Likewise, this has enabled him to turn his abundant energies effectively in other directions. He is active in the Masonic order, secretary of the Newton Rotary Club, a director of the Community Council and a leader in the Community Chest, and director of the Newton Chamber of Commerce.

In 1931, Herb married Miss Helen Severson, formerly a co-worker in the Babson organization. They have two children: Herbert, Jr., five and a half, and Marilyn, aged four. Their attractive home, only a few minutes' walk from the office, is in a roomy, secluded and natural setting that affords a stroll

through the woods or skating on a private pond directly from the back door. Currently, Herb's chief landscaping project is to cut into fireplace lengths five fine red oaks that fell in the September hurricane. A little later he will get around to piecing together the wreckage of his cottage on the shore at Mattapoisett, which also went down in the storm.

Characteristically, these misfortunes have not disturbed Herb McGill's poise or his good nature. He still insists that he's the luckiest man he knows. He has complete confidence in the future, he's accustomed to look at things in the long view, and he's having a grand time along the way.

—S.F.H.

Purchasing Agents Speak on Buying Topics

THOMAS W. HARRIS, JR., Division Purchasing Agent of E. I. du Pont de Nemours & Co., Wilmington, and Chairman of the N.A.P.A. Coal Committee, addressed the second annual West Virginia Coal Conference, held November 10th and 11th at Morgantown, West Virginia.

HARRY J. GRAHAM, Secretary of the New England Purchasing Agents Association, addressed the University Extension Course in Salesmanship at Harvard University, November 8th, on the topic, "A Purchasing Agent Looks at Salesmen."

C. C. WARNE, Purchasing Agent of the New York Central Railroad, addressed the November 15 meeting of the New England Railroad Club at the Touraine Hotel, Boston, on the topic, "Railroad Purchasing."

EDWARD E. CISSELL, Purchasing Agent of the American Security & Trust Co., addressed the auditors' section of the District of Columbia Bankers' Association at their November meeting, on the topic, "Advantages of Centralized Purchasing in a Financial Institution."

PETROLEUM

—from Well to Market

HARRY BOTSFORD

Associate Secretary
Associated Petroleum Industries
of Pennsylvania

THE STORY OF PETROLEUM, from the well to the market, is typically American in origin, development and growth.

The first oil well in America was drilled in 1859. Two years later there was an annual production of 2,000,000 barrels and a ready market for the oil and its products. This amazing growth was due to a combination of circumstances. Over fifty refineries were operating when the first well was drilled, making illuminating oil from shale coal. With the discovery of crude oil it was a simple matter to convert these refineries to a simplified process utilizing crude oil. America was just entering that era fancied by the phrase-makers as the Machine Age. Too, there was a brisk demand for a safe illuminating oil. No other basic industry was ever before launched under such favorable auspices; with processing equipment ready and waiting and an eager market.

In slightly less than eight decades, oil production in the United States has increased to 1,277,653,000 barrels per year, each barrel containing 42 gallons, approximately 62.6% of world oil production.

The route from well to market? It usually starts when an "oil scout," working well in advance of newly opened oil fields, approaches a land owner and negotiates for the purchase of the lease of land on which oil wells are to be drilled. Circumstances and company policy usually dictate whether the land shall be purchased outright or leased. If a lease is negotiated, the land owner is guaranteed that a certain number of oil wells, drilled to a specific depth (or deeper) will be drilled by the oil company. When, as and if, crude oil or natural gas is discovered in paying quantities, the land owner will receive a royalty on all oil or gas produced and marketed, said royalty being

based on prices current at the time the oil is produced and sold. Royalty percentages vary; in some fields they may reach a peak of one-quarter; in other fields one-eighth will be the limit. In 1937, the oil industry paid out in royalties, bonuses and rentals the sum of \$200,000,000.

The structure of individual oil companies varies. Many are integrated; that is, they produce, transport, refine and market. Under these conditions, the route from the well to the purchaser is fairly simple. Other organizations may be semi-integrated; that is, they may pro-



This is the third article in a series outlining the marketing process in major raw materials, tracing the course of the material from its source to the time of its arrival in the industrial user's plant

duce and transport only. Or they may transport and refine only. Another may refine and market only.

If we examine the routine between well and consumer in an integrated oil company, we will have a fairly complete picture of an interesting but fairly simple process.

First, the oil must be produced. This is accomplished, either through a natural flow or by mechanical means. From the well, the crude oil runs, either by gravity or pressure, through what are known as "gathering" lines from 2" to 6" in diameter to a field storage or "stock" tank which will contain as a maximum about 2,000 barrels. From this storage, where much sand, dirt and other "settlings" are separated, the oil passes through trunk pipelines. These lines will average from 8" to 16" in diameter. As a rule, "gathering" lines, being of short distances in length are not buried. However, in hot climates where evaporation losses are heavy or

where severe winter weather may cause freezing, it is considered good practice to have such pipelines buried in trenches below the frost-line. The topography of the terrain determines the location of the pumping station or "booster" plant. An 8" pipeline ordinarily moves 20,000 barrels of oil about 65 miles per day. Pumping stations, where powerful pumps give the oil impulse are seldom more than forty miles apart, although in mountainous country pumping stations are located closer together.

Pipelines for product-transportation are purely American in origin and development. Today the petroleum industry owns and operates 112,000 miles of pipeline which transport a billion barrels of oil and oil-products annually. In addition, another 168,000 miles of "gathering" and other purpose pipelines are required in the interests of efficiency.

Today, a veritable network of pipelines covers many states. In

several instances, oil is transported from the Mid-Continent oil fields to the eastern seaboard where it is refined. Many of these lines have been in operation for years and represent the ultimate in low and dependable transportation costs.

Let us digress, at this point, and explain how the so-called "independent" oil producer gets his oil to market. By "independent" is meant an oil producer whose sole business is producing crude oil. He owns no pipeline, no refinery or marketing equipment. He has only the raw and crude product to sell. How does he do it?

As a rule, pipeline companies or refiners controlling pipeline facilities are required by law to make their facilities available to those lacking such equipment. A small but reasonable charge is made for pipeage, in many instances at a rate established by some state regulatory commission. If the pipeline is an independent pipeline not engaged in any other business aside from transportation, it may have limited storage facilities which will permit the "independent" oil producer to store his raw produce until market prices justify its sale to a refiner. Storage charges, however, are rather high and, as a rule, producers sell



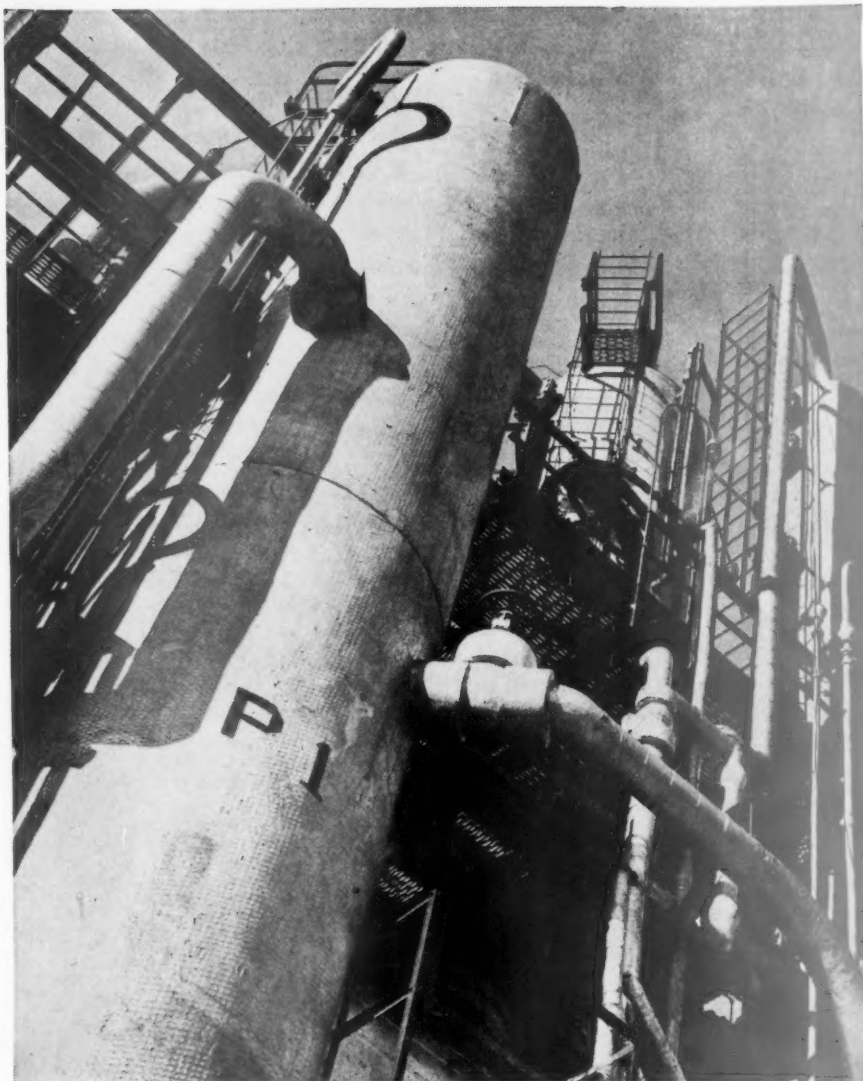
their oil to refiners at the current and posted price on the day the oil passes through the pipeline. Dollars invested in the purchase of crude oil have a high velocity, for a traditional ship-sell-pay policy has prevailed since the industry was first launched. As a rule there is a ready cash market for every barrel of oil put into a pipeline.

We now return to the oil owned by the integrated oil company. From the pipeline, it may reach the refinery by tankship or through railroad tank cars. Once the oil reaches the refinery it will be stored at a tank "farm" in tanks holding from 55,000 to 100,000 barrels each.

From storage the oil is pumped into the refinery proper. The process of refining crude petroleum at the present time is essentially identical with the first processes. However, each year sees improvements in the procedure and technique. Crude oil, it must be remembered, consists of thousands of different organic chemical constituents which have physical properties peculiar to each chemical, and provides conditions whereby the various crude constituents boil at different temperatures. Due to the differences in these boiling temperatures of the various constituents and other chemical properties, the crude oil can be separated into different fractions or groups of constituents. By handling and treating each of these various groups of materials, various types of products can be prepared and refined to meet the demands of various market specifications.

The refining processes proper are highly technical and require expensive equipment. Constant research is carried on to the end that the process may become more efficient, that the quality of the product is improved and that a greater yield of products may be squeezed from each barrel of crude oil or by-product processed.

Briefly, refining works out something like this: The oil is delivered to a battery of stills that are operated at different temperatures. The first still will be operated at such a temperature that naphthas will be boiled or distilled



off by passing the vapors over and through cooling coils. The second still will operate at a higher temperature than the first and will distill off a gasoline fraction which is likewise passed over and through cooling coils. Then each consecutive still will distill off its particular fractions which are, after gasoline: kerosene, gas oil and fuel oil fractions. Each fraction re-distilled is retained in a separate tank and used as required.

The material left in the last still in which the fuel oil is distilled off is lubricating oil stock. This lubricating oil stock is then piped to the dewaxing plant where it is chilled and filtered, making it possible to remove the wax. This wax is then prepared for the market. The filtered lubricating oil stock is now ready for further refining. It is piped into another still and various fractions of the lubricating oil are

distilled off. The various fractions of the lubricating oil stock are then treated with acid, washed with water and neutralized with an alkali. After this it is again filtered and placed in storage tanks. Then, as the various types of lubricating oils are needed, the different lubricating oil fractions are blended together in different proportions and prepared for the market.

We are now ready to market. At this time the products belong to the refiner. Among the products which may now be disposed of are gasoline, kerosene oil, lubricating oil and waxes, viscous neutrals, cylinder stocks, bright stock, white crude scale wax, petrolatums, fuel oil, etc. Prices on these products and on all by-products are largely dependent on the simple law of supply and demand which, as every purchasing agent knows, shifts most unreasonably.

Prices, however, are largely identical in almost every portion of the world, not counting transportation charges. Most purchasers of petroleum or its products subscribe to "*Platt's Oilgram*," published in Cleveland, and use the daily price averages quoted there as a guide. As a rule there is little deviation from these schedules.

The refiner, as is the case with any manufacturer, has a choice of many methods of distribution. An integrated refiner, or any other refiner, will, for example, have branch offices and bulk storage plants in consumption-centers. The products are either shipped into these plants by motor tank truck, by tank car or through pipeline facilities. Modern pipeline practice makes it possible for a refiner or shipper who has pipeline facilities at his disposal, to ship several types of products through pipelines at the same time. Between the different products is a "plug" of oil products which prevents the various liquids from mixing.

Once the oil is in storage (and in describing this method of distribution I am purposely omitting the purchases made directly from the refinery as most of them are made close to the refinery proper and do not, as a rule, constitute an important phase of their total distribution) let's see who is in charge of the marketing. It all depends. Many refiners market through jobbers or distributors who own their own bulk plants. Many concentrate, except in isolated instances, on what is commonly termed "company operations" wherein the refiner, through his marketing division, carries out the details of selling to the consumer or the retailer.

In the case of a company operated bulk plant, sales are made to the user of industrial oil direct, delivery being made by tank truck. Salesmen, if the plant is a large one and the territory also large, concentrate on one or two allied products, making their calls on purchasing agents, engineers, plant superintendents, etc. Another group of salesmen concentrate on dealers. Dealers, as the term is commonly used in the

oil industry, means those who conduct filling stations. Through these outlets only a few products are sold, yet these products usually represent the bulk of the production of the average refinery: gasoline in different grades, motor lubricants consisting of oils and greases, and a few by-products. In rural or semi-rural areas, filling stations frequently have one pump devoted to the sale of kerosene. The dealer does not, for example, ever sell fuel oil.

Approximately the same procedure is followed if the bulk plant is operated by a jobber or distributor, although, as a rule, the jobber or distributor sells only automotive products, sold, in turn, to and by their own dealers. In such an instance there will be direct sales from the refinery to industrial consumers of lubricants or fuel oil. Domestic fuel oil sales are largely direct sales from the refiner or a distributor or jobber selling only fuel oil.

The partial output of many refineries is distributed through commission agents or consignees. These individuals or organizations usually own necessary storage facilities and sell only a few products to dealers. Their activities, as a rule, center on the dealer-sale of motor oils, gasoline, greases and kerosene oil. Sales of fuel oil and industrial oils are made direct to the consumer, however. Each oil company operating through a commission agent or consignee has its own type of contract. In most instances, however, the commission agent or consignee does not function in what might be called a brokerage basis. He buys first and sells afterward. Title to the oil or products is normally in his name. Obviously it is impossible to set down any hard-and-fast regulation regarding the operations of these men in a distributive machine because of the wide variance which exists in company policies.

Vital statistics concerning the oil industry are available from two commonly used and dependable sources: The American Petroleum Institute and the U. S. Bureau of Mines. Neither organization, however, supplies any data in regard to price structure. Trade magazines quote

such price movements, and "*Platt's Oilgram*" issues a daily report that is excellent in coverage and dependable as to character.

The price of gasoline, the principal product of the oil industry, in over 200,000 service stations is established, in part, by competition. No other field, as judged from both retail and wholesale viewpoints, is as highly competitive as the oil industry. Thousands of alert, aggressive, hard-fighting independents (this refers to refiners, marketers and to refiner-marketers) daily match their ability to buy, manufacture and sell on the open market against that of the integrated companies, assuring a competitive condition that distinctly favors the purchaser.

Price movements, aside from those of a purely seasonal nature, in oil and its products, are difficult to predict or anticipate. Seasonable swings are inevitable so long as gasoline is the major product of oil refining. With the advent of cold and unseasonable weather refiners accumulate manufactured stocks. This is inevitable. Gasoline consumption goes down; stocks go up. Oil consumption usually represents a fairly level line of constancy. It is impossible to store any considerable volume of this raw product, once it is atop the ground. It must be processed, even if markets are not ready to absorb it. This condition frequently throws on the market, during the winter season, stocks of "distress" products sold at prices below established and quoted levels. This, very obviously, will depress the market and cause lower prices. When warm weather generally returns and John J. Citizen starts to use the family car every day; when motor transportation of freight picks up, gasoline prices move upward and stocks of finished products diminish.

All by-products, obviously, are made from crude oil. Let us assume a condition where a warm winter materially reduces the demand for fuel oil. Under such conditions the refiner must, of necessity, re-run the fuel oil through the refinery and manu-

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INDUSTRY STEPS IN

BERNARD S. COLEMAN

IF WE FOCUS THE spotlight of retrospection on public health progress since the turn of the century we find that thirty years, approximately one-half of the ordinary person's lifetime, have elapsed since the advent of the organized fight against tuberculosis. The struggle has been dramatic with all the attending excitement, encouragement, optimism, exhilaration of groups, agencies, and individuals participating in it.

Many gains have been made. Tuberculosis is being routed rapidly from its strongholds, dropping from its position of prime importance as the leading cause of death during the decades, but it still takes its greatest toll among young men and women between the ages of 15 and 45 at a time when they are supposed to be of greatest service and usefulness to themselves, their families, and to the community. Within these age limits tuberculosis occupies first place as a cause of death, and is therefore basically a problem of the working man and woman.

Tuberculosis may be termed a disease of industry. It is the outstanding chronic disease of industrial workers. It strikes people when they are in the period of their greatest industrial productivity. How is industrial management meeting the challenge and what is it doing to maintain the health of its workers with special reference to this communicable disease?

Since the passage of the first state compensation law in 1911, industrial medical services have been established in thousands of plants throughout the country to provide for the health of the industrial worker. Enlightened management has found that there are economic and human values in maintaining the worker's health, not only from the standpoint of increased efficiency, reduction in the time lost on account of illnesses, a more contented and happier working force, but also that the preventive and curative phases of industrial medical services bring return in dividends many times above the cost of these benefits.

Modern industrial management provides physical examinations of applicants for employment, periodic health examinations of employees, efficient care of all industrial injuries and occupational diseases, first aid and advice for employees suffering from non-industrial injuries and illnesses while on duty. It provides medical and engineering supervision of plant sanitation and of all industrial health measures for employees.

The American College of Surgeons has surveyed more than 1,600 industrial establishments representing approximately 5,500,000 employees and has approved more than 50% of these organizations as having met the minimum standards for medical service in industry adopted by the College. This number, although seemingly large, is small when we consider that there are approximately 50,000,000 persons in gainful employment in the United States, 15,000,000 of whom are

CHRISTMAS SEALS



**Help to Protect Your Home
from Tuberculosis**

employed in industries many of which are associated with health hazards. But with an increasing interest on the part of the United States Public Health Service and the state departments of health, to which money is being made available from Social Security Funds for industrial health activities and studies which show more and more conclusively the advantages of direct industrial medical service to industry and labor, an era of even greater expansion is anticipated during the ensuing years.

Trial surveys and appraisals which have been made indicate that the control of tuberculosis among industrial employees is receiving more and more attention. Industrial plants are using modern methods recommended by the National Tuberculosis Association in finding cases of this disease, especially the early cases which present no outward symptoms, and which may be detected by the use of the fluoroscope or the X-ray. The examination of applicants for employment is discovering many of these cases. Further examinations at stated intervals during the course of employment, frequency depending upon the nature of the work, are made to determine the health of the worker as time proceeds and to watch the effect of the employment on the worker with special reference to possible occupational hazards.

Many industries provide rest homes for employees for given periods when their health seems to be failing and a comparatively short stay in the country under suitable conditions may effect physical restoration and

Continued on page 52

F. O. B.

(Filosofy of Buying)

RATING, IN A MODEST way, a place on the supplier list of several thousand firms where purchasing is a major function, our recent mail has been swelled by a good many dignified and tactful reminders that Christmas gifts to the purchasing department are taboo, an unsound business practice that chiefly results in greater overhead or sales expense. In most cases that polite edict is enforced by instructing the purchasing staff to return any gifts that may come to them in a business way. Genial old Santa, despite a corpulent figure that makes the posture somewhat uncomfortable, is required to lean backwards lest his motives be subject to unfavorable criticism. Still the parcels continue to drift in at holiday time, and while most purchasing men join in condemnation of the practice, it seems a churlish and unseasonable gesture to send them back. F. O. B. has run across one P.A. with an ingenious solution for disposing of the loot in a way that contributes to Christmas gaiety without leaving him open to personal criticism and without making a cursory practice of rejecting the suppliers' evidences of good will. For several years, he has turned everything over to the Employees Association, to be auctioned off at the Christmas Party, the proceeds going into the Employees Fund. It has been a popular feature of the affair. The discriminating stoker may carry home those Corona Coronas that the printer sent, and the shipping clerk may get the chromium ash tray or the leather bill-fold that came from the lubricating oil salesman with season's greetings. Everybody is happy. The suppliers know exactly what is done, so there's no misunderstanding on that score. There's a danger, of course, that it may degenerate into a racket like soliciting prizes for a picnic or golf tournament, but thus far it hasn't worked out that way.

Curious Cuthbert wonders whether it isn't about time we discarded Kipling's "Recessional" as the national anthem.

THERE HAVE BEEN so many instances of false pretenses used as a means of bedeviling the poor P.A., that it is scarcely news any longer. But when a man fraudulently pretends that he is a purchasing agent—that's unique. And diabolical, too, for few would question such a self-effacing claim. The particular type of procurement this fellow went in for, posing as an officer of the State Purchasing Department of Massachusetts, was the solicitation of funds for Christmas baskets for the needy. But it wasn't so

smart after all, for that sort of activity doesn't jibe with the sterling record of Major Cronin's department over many years and through many changes of administration. "Neither the commissioner or any employee of the State Department has ever solicited or will solicit from any merchant any contribution of any kind," said the Major, and the merchants know that what the Major says, goes. At last accounts the solicitor was plying his trade in the guise of an official of a fraternal organization.

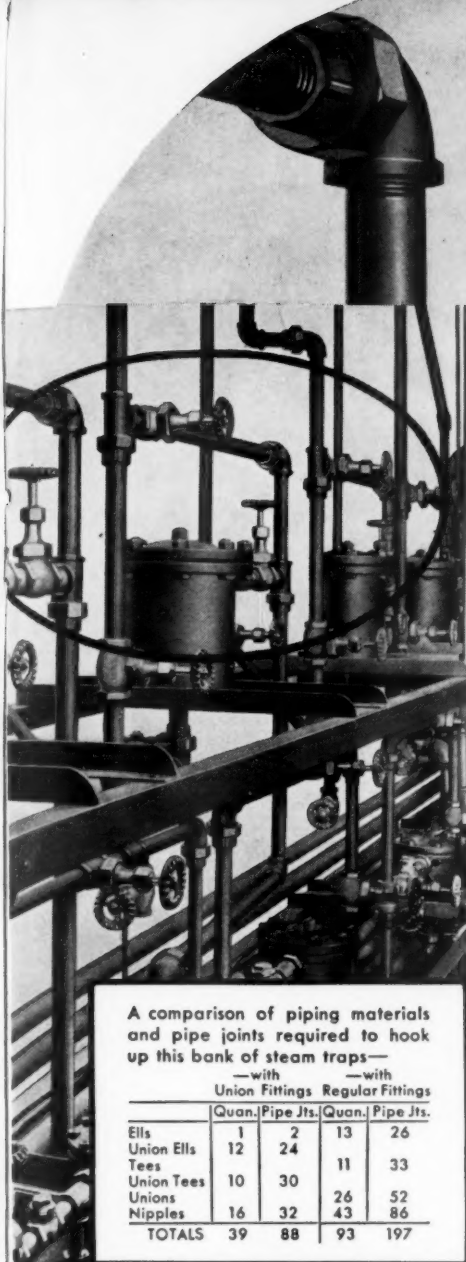
TO AL BEIL, P.A. of the American Catalin Corp., goes credit for the assist on this classification of six kinds of buyers:

1. *Ideal Buyer*—Looks, buys and gives an order.
2. *Musical Buyer*—"I'll make a note of it."
3. *Animal Buyer*—"I'll 'bear' it in mind."
4. *Marine Buyer*—"I'll be up to 'sea' you."
5. *Russian Buyer*—"One-of-each."
6. *Constipated Buyer*—"No, I can't buy. I've got to get rid of what I've got."

Harry Botsford, whose article on the marketing of petroleum appears in this issue, speaks the language of the purchasing man. He was assistant to W. L. Chandler "way back when" the latter was handling purchases for the Dodge Mfg. Co. and serving as president of the N.A.P.A.

STATISTICALLY MINDED P.A.'s may wish to compare their own experience with the following analysis of a week's mail, reported by Tom Jolly of the Aluminum Company of America in the October 8 issue of *Printer's Ink*. The editor of our esteemed contemporary remarks in his caption that "Not even Ripley would believe what the postman brings to the desk of an industrial P.A.," but other buyers will recognize the situation as altogether credible. The analysis reveals the following:

Pieces of direct-mail advertising received.....	314
Pieces discarded in waste basket immediately.....	276
Pieces read and discarded.....	27
Pieces read and referred to others or filed.....	11
Duplicates received.....	27
Triplicates received.....	4
Pieces mailed to address not used for over 3 years.....	15
Pieces addressed to persons not employed here for 3 years or longer.....	7

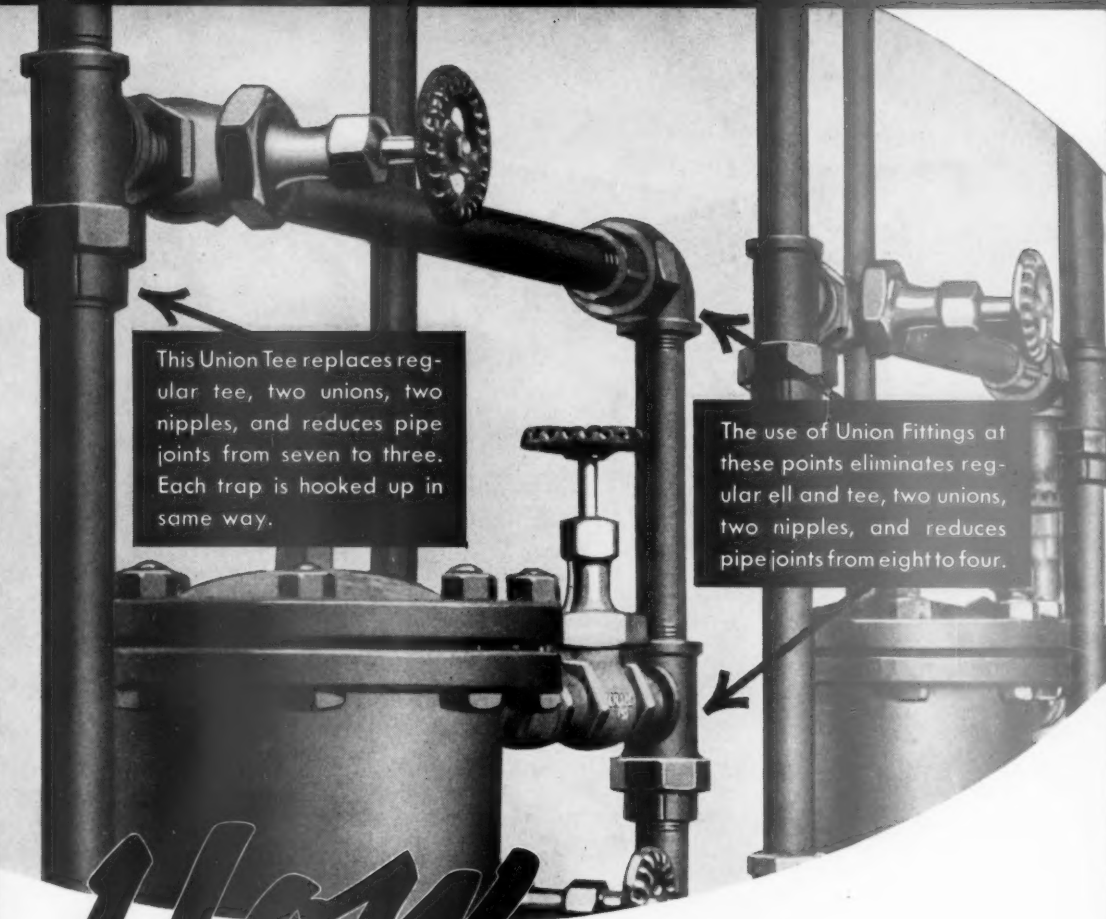


A comparison of piping materials and pipe joints required to hook up this bank of steam traps—

	—with Union Fittings		—with Regular Fittings	
	Quan.	Pipe Jts.	Quan.	Pipe Jts.
Ells	1	2	13	26
Union Ells	12	24		
Tees			11	33
Union Tees	10	30		
Unions	16	32	26	52
Nipples			43	86
TOTALS	39	88	93	197

99 9,996,551 %
10,000,000 %

of Crane fittings are found fit. Details in folder sent upon request.



This Union Tee replaces regular tee, two unions, two nipples, and reduces pipe joints from seven to three. Each trap is hooked up in same way.

The use of Union Fittings at these points eliminates regular ell and tee, two unions, two nipples, and reduces pipe joints from eight to four.

How

CRANE UNION FITTINGS

SAVE MATERIAL, TIME AND LABOR

The use of union fittings in piping systems is often overlooked. They are valuable even in simple hookups, but in more elaborate layouts, their advantages are emphasized. Because a single union fitting ordinarily serves the same purpose as a tee or elbow, union and nipple, installation costs are minimized—in material, time and labor. Union fittings reduce the number of threaded joints—giving greater safety. Pipe lines gain a workmanlike makeup that adds to plant appearance.

Depend on Crane-Quality union fittings to help keep your liquid, air, and vapor lines at peak efficiency always. The amazing standard of perfection that Crane has attained in the manufacture of millions upon millions of fittings of every type yearly, is strong assurance of their unfailing, trustworthy performance. You'll find that Crane-Equipment throughout your plant brings greatest piping satisfaction, because—in fittings as in valves—

IT'S WHAT'S INSIDE THAT COUNTS!

CRANE

VALVES • FITTINGS • PIPE
PLUMBING • HEATING • PUMPS

CRANE CO., GENERAL OFFICES: 836 SOUTH MICHIGAN AVENUE, CHICAGO, ILLINOIS

NATION-WIDE SERVICE THROUGH BRANCHES AND WHOLESALEERS IN ALL MARKETS

CRANE SCREWED FITTINGS FOR POWER PLANTS AND FACTORIES

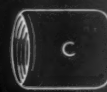
Crane's line of fittings includes not merely the few hundred types and sizes in most common use, but a total of more than 10,000 separate and distinct items in cast and malleable iron.



ELBOWS—90°, 67½°, 60°, 45°, 30°, 22½°, 11¼°, and 5¼°. Street, Long Sweep, Side Outlet, Drop, Hub Vent



TEES—Service, Four-Way, Drop Tees, Long Sweep, Double Sweep, Wash Tray



COUPLINGS—Right Hand, Right and Left, Half (Also Wrought Iron), Reducers, Increasers



UNION FITTINGS—Male and Female, 90° and 45° Elbows, Tees with Union on Run or Outlet



BUSHINGS—Outside and Inside Hexagon, Face, Eccentric, Double Tapped



PLUGS—Square Head, Solid, Countersunk, Bar, Barrel



NIPPLES—Close, Short, Long, Tank



UNIONS—Ground Joint, Gasket Type, Female, Male and Female, Air-Pump

A CRANE FITTING FOR EVERY PURPOSE—The screwed fittings shown above are only a few of the scores of different types and modifications. The complete Crane line

includes banded and plain patterns, black or galvanized, in a wide range of straight and reducing sizes, in four pressure classes in malleable iron and five in cast iron.

Change gears.... **change to** **Uma Supercut**..... **TREATED** **and shift production into high**

● Take advantage of the possibilities for greater production which your machines afford. Change gears, use Uma Treated Supercut (S. A. E. X-1112) and see your production shift into higher figures.

Even though you now are running your machines at top speed . . . or for various reasons you prefer slower speeds . . . you can change the feed gears, use Uma Treated Supercut and materially increase parts production—and profits.

Uma Treated to eliminate tool-wearing abrasive inclusions, this high efficiency Bessemer screw steel offers advantages of higher speeds, increased feeds and longer tool life from which parts manufacturers can select the combination most efficient for each particular problem.

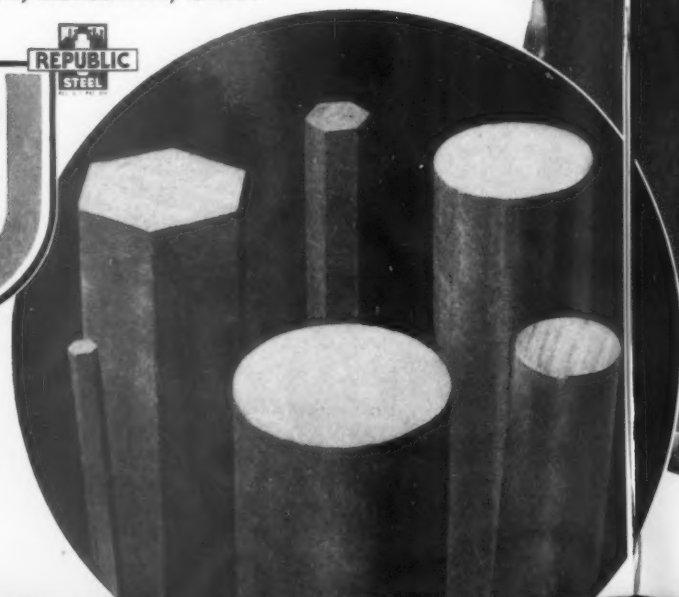
Reduced wear on the cutting edges of tools permits speeds and feeds approaching those of brass. Fewer grindings are necessary per ton of steel cut. Machined surfaces show a greatly improved finish. Close tolerances are maintained. Physical properties equal those of untreated steels. Costs are radically reduced.

Try a production lot of Uma Treated Supercut. See for yourself how it effects greater efficiency. A Union Drawn Field Service Man will gladly assist you in obtaining maximum results. He will show you how you can use other Uma Treated Free Machining Steels to produce better screw machine parts at lower cost. Union Drawn Steel Division of Republic Steel Corporation, Massillon, Ohio.

Cold Drawn Uma Treated Free Machining Steels

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Freecut • Supercut**

**UMA TREATED OPEN HEARTH
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1015 • 1035 • 1045**





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TREATED

Free Machining

**BESSEMER and
OPEN HEARTH
SCREW STEELS**

UNION COLD DRAWN STEELS

THE MARKET PLACE



*A quick review of the market
noting major developments in
supply, demand and prices of
selected basic commodities*

Supply

Demand

Market

BURLAP

THE STATISTICAL SITUATION in burlap was slightly improved during November. Figures issued early in the month showed a shrinkage of 24 million yards on hand in the primary market at Calcutta, the first decline in stocks registered in eighteen months. U. S. stocks were also down 4 million yards, but the total domestic supply of 335 million yards, spot and afloat, is still equal to five months' requirements. Five Calcutta mills are shut down by strikes, but the effect on total output is not significant.

OCTOBER CONSUMPTION OF BURLAP in the U. S. was up to 68 million yards, or about 3% above the previous month. With ample supplies in sight, however, buyers are not actively in the market. Demand continues light and trading listless, being confined principally to minor fill-in lots.

PRICES HELD RELATIVELY firm through the first week of November, reflecting a more buoyant feeling in the primary markets, where the statistical improvement was more seriously accepted than by consumers generally. In succeeding weeks, apathetic demand again became the controlling factor as prices sagged from 5 to 10 points on the spot list and 10 to 15 points on futures.



COAL

AFTER REACHING A 1938 peak of 8,475,000 tons in the last week of October, output of bituminous coal again dropped below 8 million tons weekly in the first half of November. An increase of production activity in the third week brought the figure back to 8,325,000 tons. While not quite up to the October tonnage, this was the first week of the current year when weekly output exceeded the corresponding figure for 1937. Consumer stocks are increasing in most industrial classifications except steel, October 1st inventories showing an advance of 6% from the previous month, though still 20% below stocks of a year ago.

INDUSTRIAL CONSUMPTION of coal continued to increase at a healthy rate, though not spectacularly, and this coupled with seasonal heating requirements showed a substantially better demand. For the most part buying was maintained on a hand-to-mouth basis, additions to stock piles merely maintaining a comparable ratio to current use requirements, or about 45 days' supply.

THE PRICE LIST ON bituminous coal was nominally unchanged in November, and it is not considered likely that this situation will be disturbed to any great extent until the expiration of present labor contracts on March 31. There is of course the minimum price determination of the National Bituminous Coal Commission, still pending as it has been for many months. Promulgation of these prices has been definitely deferred until after the turn of the year, and a considerable further delay is anticipated. Wholesale prices on anthracite advanced early in the month; coke prices were unchanged.



COPPER

WORLD STOCKS OF refined copper were down 32,743 tons in October, U. S. stocks down 25,781 tons. Expanding production, however, was reflected in higher blister stocks, which advanced 12,781 tons in the U. S. and 17,852 tons on a world basis. The net reduction in all supplies is therefore 13,000 and 14,891 tons, respectively. The increase in blister stocks is regarded as favorable, since supplies are now down to about 5 weeks' requirements at current rates. The removal of production restrictions stepped up foreign output by about 8 1/2% and the quota (110%) has been reinstated.

DEMAND FOR COPPER suffered a relapse in November after two months of exceptionally heavy buying, and only about 12,000 tons of domestic sales were reported, this being about 15% of the October total. Deliveries are also running well below earlier expectations. Foreign markets held up relatively much better. Domestic consumption is well maintained, however, with a fairly diversified outlet. Brass makers are operating at better than 70% of capacity, as compared with 23% earlier in the year and 45% only two months ago.

THE DOMESTIC PRICE OF 11 1/4 cents on copper was held firmly throughout November despite rather general weakness in metal markets and a European price fully one cent lower. There were several evidences of weakness in the more sensitive items of the schedule, particularly in copper scrap and brass ingots, the scrap quotation of 8 3/4 cents per pound indicating a primary market of 10 1/4 cents if the normal ration should prevail. Toward the end of the month it was reported that some metal was available at the latter figure, but whether this was in any substantial quantity was not disclosed, and there was no active market to develop that situation.

TEST PILOT



Today, Gaylord Boxes are a recognized symbol of shipping safety.

Practical testing is one of the main reasons. If a Gaylord box, designed for your product, satisfies a Gaylord "test pilot," you can rely on its being the safest shipping protection your product can have.

Hard boiled, and with orders to "give it the works," these men put Gaylord Boxes through tests which make ordinary shipping hazards mere child's play. For hundreds of leading manufacturers, this Gaylord precaution assures minimum damage in transit . . . maximum customer satisfaction.

As satisfactory arrival is one of your strongest sales weapons, make sure your shipping containers are the safest possible. Check with Gaylord now.

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GAYLORD CONTAINER CORPORATION

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Supply

COTTON

GOVERNMENT LOAN COTTON now comprises 7 million bales of the carryover and 3 million bales of the new crop. The balance of the carryover has gone into consumption, exports or mill stocks, as have 3 million bales of new cotton, accounting for more than half the current crop, and leaving only 6 million bales for 9 months' use, as government stocks are off the market.

IRON and STEEL

THE UPWARD SURGE OF STEEL output carried production to a new high rate for 1938 in mid-October, at 62.6%. In the latter half of the month it declined again to 60.7%, which is still ahead of the level for any previous month of the current year. It was apparent early in the month that production has outstripped expanding demand. Most observers see a leveling off in the operating rate at 60% or slightly higher, the normal seasonal decline being tempered by rising requirements and a backlog of orders in some classifications such as light sheets, which cannot be delivered before January.

LUMBER

THE DECLINING OUTPUT of lumber noted since September continued during the first three weeks of November with increasing momentum, and brought the industry down to 49% of 1929 average weekly production. In the latter part of the month there was some improvement, and activity is estimated at 58% as of December 1st.

NAVAL STORES

STOCKS OF BOTH TURPENTINE and Rosin increased at southern markets during November, by 3% and 9%, respectively, adding to the already heavy burden of this topheavy factor. The conservation program for 1939 has been approved by the Department of Agriculture, based on recommendations of the American Turpentine Farmers Association. Producers in eight southern states will participate in payments for working only the larger trees and otherwise protecting the growth of their pines.

PAPER

PAPER PRODUCTION IN NOVEMBER was slightly down from October levels, but remained higher than for any of the other preceding months of 1938. The same situation prevailed in paperboard.

Demand

DEMAND FOR COTTON GRAY goods broadened considerably in November, and buying was active following the election, new orders reaching a volume of approximately double current production in the industry. The demand was well diversified, with industrial constructions representing a considerable factor. October use of 543,778 bales exceeded 1937 figures for the first time in 14 months.

THE EXPANDING AUTOMOBILE industry continued to lead as an outlet for steel. November car production went to 375,000 units, the rate being above 100,000 weekly in the latter part of the month. This cut heavily into available steel supplies. It is expected that tin plate orders will be in heavy volume during the first quarter—the stated duration of the lower price on this item—and such a development might add as much as 10 or 15 points to current steel production. Consumption of pig iron advanced more rapidly than anticipated; buying is still on a hand-to-mouth basis, but there are many rush requirements and total volume is good.

SHIPMENTS AND NEW ORDERS for lumber followed the same course as production, down in the early weeks and recovery at the close of the month, when shipments were at 60% of the 1929 weekly average. Dealer purchases have been cautious, and principally for inventory replenishment. The weak spots are in industrial buying, which has improved only slightly, and in railroad purchases, which continue at near record low levels.



DEMAND, SLUGGISH FOR MANY months past, reached new low levels of sluggish inactivity. Trading was spotty and light; several days reported virtually no transactions and some of the bids were so far off the market as to result in no business.

DEMAND IS GENERALLY WELL maintained. Newsprint consumption reflects better business conditions and has recovered approximately three-fourths of the extreme decline experienced earlier in the year.

Market

COTTON PRICES WENT TO NEW highs for the season during November, reflecting better trade conditions and a technical shortage of supply. The price did not, however, rise sufficiently to release government holdings of the staple. December contracts sold as high as 8.74 cents and ended the month around 8.70. More distant positions were firm. Textile prices were steady and strong.

IRON AND STEEL MARKETS generally stabilized and firmed in November. The notable exception was tin plate, on which a \$7 per ton reduction was announced just on the eve of the seasonal revival of demand. The new price, however, is for only 3 months instead of the customary 9 months, a fact which will presumably lead to early placing of the bulk of the year's business. Scrap prices moved strongly upward. No longer the infallible barometer of former years, this nevertheless is an indication of strength in the price schedule of the primary market.

LUMBER PRICES WERE FIRM and trending upward in both hardwoods and softwoods, though with no indications of any runaway market. Southern pine was up $8\frac{1}{2}\%$ to \$23.22 in two advances during November, while oak advanced from \$70 to \$71 in the latter part of the month.

THE ENTIRE PRICE STRUCTURE in naval stores sagged during November. The buoyancy that characterized turpentine during October was no longer in evidence, and a net decline of 3 cents per gallon brought quotations back to a point only slightly higher than two months earlier. The weakness of the rosin list was even more apparent. Medium grades were off 85 cents per barrel, and fine grades lost 30 to 40 cents.

PRICE FEATURES OF NOVEMBER WERE: a drastic reduction of \$5 to \$10 on all grades of sulphite bond, reaffirmation of the \$50 price on Canadian newsprint (Great Northern still quotes \$48), and a lowering of the import duty on Canadian book paper (by $\frac{1}{2}$) and tissue (by $\frac{1}{2}$).

Supply

PETROLEUM

PRODUCTION OF CRUDE OIL was moderately up in November as California fields continued record activity. Texas shutdowns will continue at least till the end of the year. Oil run to stills was also in greater volume, gasoline storage seasonally higher, and fuel oil storage down but adequate for prospective requirements. Looking ahead to the probable position of the industry after the turn of the year, observers incline to the view that spring inventories will be in more favorable balance than in the present year.

RUBBER

WORLD STOCKS OF RUBBER will probably show a decrease of approximately 50,000 tons for the final quarter of 1938 as a result of the restriction program. The November meeting of the International Rubber Regulation Committee authorized an increase of export quotas to 50% for the first quarter of 1939. Coupled with the 13% increase in basic quotas, this indicates probable shipments of 72,000 tons per month as against estimated world consumption of 80,000 tons. The program thus contemplates a further reduction of supplies but only at $\frac{1}{2}$ the rate of present curtailment. U. S. stocks were down 6,500 tons but are 35% higher than a year ago, and equal to $6\frac{1}{2}$ months' supply. Tire stocks are reported at the lowest level in three years.

TIN

WORLD STOCKS OF TIN ARE still rising moderately. While they are high in terms of present consumption rates, they are not at all excessive in relation to the probable demand as tin plate production again gets under way. First quarter quotas are unchanged—35% of standard allotments available for free export, and 10% for the buffer pool. November deliveries to the United States were down to 3,535 tons.

ZINC

ZINC PRODUCTION HAS BEEN GRADUALLY expanding, but November was the fifth successive month in which production was not as great as the volume of shipments. The backlog of unfilled orders rose more than 3,500 tons to 44,312. Ore production was steady for the greater part of the month, but faces sharp contraction due to the stronger competitive position of foreign metal under the new trade agreement.

Demand

CONSUMPTION AND DEMAND reacted very sensitively to varying weather conditions in November. In the early part of the month, gasoline sales held above the anticipated level, while kerosene and fuel oils were lagging in demand. In the second half of the month, both light and heavy fuel oils were in stronger demand, bunker oils were more active, and domestic heating requirements became a greater factor. At the annual meeting of the A. P. I. in Chicago, an advance of 4% in gasoline consumption was predicted for 1939.

U. S. CONSUMPTION OF CRUDE RUBBER in October amounted to 40,333 tons, the highest total in more than a year. The tire industry is active, October production being 7.7% ahead of September and 7.3% ahead of the previous year. Shipments were the highest in 14 months, principally reflecting the better demand for original equipment that follows naturally from the expansion of automobile manufacture. Replacement sales, while substantially higher than a year ago, represent a seasonal decline from September levels. Manufacturers' stocks are below normal.



TRADING CONTINUED QUIET throughout November except for a short-lived buying movement just before mid-month. Large hold-over stocks of tin plate from 1937 are believed to be practically liquidated, and with the buying incentive of a \$7 reduction on this item to spur a normal seasonal upturn, it is altogether possible that operations may double or triple to 70% in the nearby months.

ZINC SALES SPURTED AFTER THE ELECTION and reached the very good weekly total of 10,165 tons. Then the complexion of the market was abruptly changed, as buyers witnessed two substantial price reductions that naturally disturbed their confidence in present values, and demand dried up. Galvanizing operations continued at about 60% of capacity.

Market

THE OCTOBER CUT IN CRUDE OIL prices was apparently sufficient to bring the situation into working balance, and schedules were held firmly throughout November. It is now thought that present levels may be maintained until spring, when a stronger market for gasoline may bolster the entire price structure of the industry. There was some competitive price cutting at both wholesale and retail in eastern markets, but this feature was less of a factor than for several months past, and there was a general feeling of confidence and stability.

RUBBER PRICES DECLINED BY $\frac{3}{4}$ of a cent in November, the spot price being $16\frac{1}{8}$ cents at the close of the month. In the first ten days, the price advanced to $17\frac{1}{4}$ cents under the influence of factory buying, but the announcement of more liberal quotas promptly reversed that trend. Sensitive to weak stock prices and unsettled conditions at London, as well as liquidation of contracts toward the end of the month, quotations broke below 16 cents in the closing week and reached a low point of $15\frac{9}{16}$ before firmer cables from London and another wave of factory buying set a strong recovery in motion. Prices were rising at the turn of the month.

TIN PRICES SHOWED NO NET CHANGE for November, being at $46\frac{1}{4}$ cents on the 1st and again on the 30th. As is to be expected in this highly variable market, there were several fluctuations in between. The quotation was as low as 45.65 cents in the closing week, after having set a new high for the year at 47 cents during the mid-month buying wave.

OUTSTANDING PRICE FEATURE OF THE MONTH was the reduction of import duties on zinc under the trade agreement with Britain, from $1\frac{3}{4}$ to $1\frac{1}{8}$ cents per pound in a market already competitive. Domestic metal immediately dropped from 5.05 to 4.75 cents per pound, and a few days later declined further to 4.50 cents, a total reduction of \$11.00 per ton. Ore prices were off \$3.50 to \$5.00 a ton.

Among the Associations

Committee on Shipman Award

President Nicholson of the N.A.P.A. has announced the appointment of the Committee of Award of the Shipman Medal for 1939, as follows: Donald G. Clark of Brown & Sharpe Mfg. Co., Providence, *Chairman*, Edward T. Gushee of The Detroit Edison Co., and George W. Aljian of California & Hawaiian Sugar Refining Corp., San Francisco. The Shipman Award, founded in 1931 by the New York Association in memory of Johnson Shipman, is tendered each year to the N.A.P.A. to be awarded to a person who "by precept, example or distinguished service has contributed to the advancement of purchasing." The 1939 medal will be awarded at the annual banquet of the N.A.P.A. at the San Francisco convention next May.

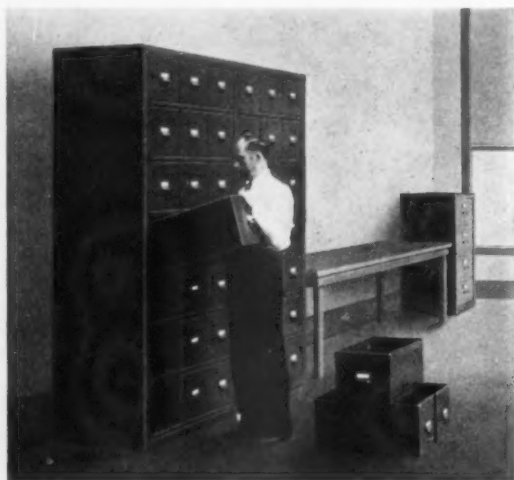
NOVEMBER 1

Oakland—Luncheon meeting of the **East Bay Group, Northern California Association**, at the Lake Merritt Hotel. Speaker: Chief Fred Carlson, Fire Marshal, City of Oakland, "The Service of Fire Prevention."

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NOVEMBER 3

San Francisco—Luncheon meeting of the **Northern California Association**, at the Palace Hotel. Motion picture, "Something More than Beer," presented by M. C. Jones of Anheuser-Busch, Inc.

NOVEMBER 4-5

Birmingham—Meeting of **District Council No. 7**. Dinner meeting of the **Birmingham Association** Friday evening, at the Redmont Hotel. Speaker: Roy Sensabaugh, who discussed economic conditions in Mexico as he observed them on a recent trip through that country.

NOVEMBER 7

Boston—Dinner meeting of the **New England Association**, at Schrafft's. Speaker. W. E. Braithwaite, Assistant Chief Business Specialist, Division of Simplified Practice, National Bureau of Standards and formerly assistant to the purchasing agent, Fairbanks Morse & Co., Chicago, "How the Bureau of Standards Helps Industry." The meeting was preceded by two afternoon conferences. At one of these, Howard Wallingford of Tileston & Hollingsworth, spoke on the topic, "The Making of Paper." At the other, a sound film, "Heat and Its Control," was shown by the Johns-Manville Co.

NOVEMBER 8

Tulsa—Discussion meeting of the **Tulsa Association**. Topics: "Field Surveys of Operations," led by H. B. Gutelius of United Supply Co. and J. S. Hawley of Stanolind Oil & Gas Co.; "Cooperation between Salesman and Buyer," led by H. R. Powers of Bethlehem Supply Corp. and H. E. Kaiser of Phillips Petroleum Co.

Oakland—Luncheon meeting of the **East Bay Group, Northern California Association**, at the Lake Merritt Hotel. Sound motion picture, "Alaska's Silver Millions," presented through courtesy of the American Can Co.

Milwaukee—Dinner meeting of the **Milwaukee Association**, at the Elks Club. Speaker: Walter Mattison, City Attorney of Milwaukee, "Legal Phases of Purchasing." Erwin H. Doht of St. Louis, District Vice-President, was guest of honor at the meeting and reported on the Kansas City meeting of the District Council.

Vancouver—Dinner meeting of the **British Columbia Association**, at the Hotel Vancouver. Guest speaker:

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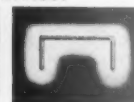


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Mr. Doyle of Finning Tractor & Equipment Co., Ltd., who showed motion pictures of the logging industry in the province. Member speakers included W. Ritchie of Fleck Bros., Ltd., "Asbestos"; A. Taylor of Canadian Industries, Ltd., "Neoprene"; R. T. Wilson of Western Bridge Co., "The Steel Situation"; J. Robinson of American Can Co., "Tin Plate and Its Uses"; H. Munroe of Burns & Co., "The Meat Industry."

NOVEMBER 9

Oakland—Banquet meeting of the Northern California Association, in connection with the eighth annual Oakland Manufacturers Exhibit, at the Hotel Oakland.

St. Paul—Dinner meeting of the Twin Cities Association, at the St. Paul Athletic Club. Motion pic-

ture of the tuna fishing industry, presented by courtesy of the Van Camp Sea Food Co. Business survey report and discussion.

NOVEMBER 10

Duluth—Dinner meeting of the Twin Ports Association, at the Spalding Hotel. E. H. Dohrt of St. Louis, District Vice-President, was guest of honor, and discussed National Association affairs. The meeting was preceded by a visit to the Iron Range, Cloquet.

Los Angeles—"Traffic Night" dinner meeting of the Los Angeles Association, at the Elks Club, in charge of the Educational Committee, L. T. Bleasdale, Chairman. Speakers: H. R. Brashear, Manager of Transportation Department, Los Angeles Chamber of Commerce, "Truck Transportation—Regulation," and T. A. L. Loretz, Transportation Counsel, of

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Loretz and Shannon, "Truck Transportation—Operation under Regulation."

San Francisco—Luncheon meeting of the **Northern California Association**, at the Palace Hotel. Speaker: George H. Eberhard, "The Ideal Purchasing Agent from the Sales Managers' Point of View."

Dayton—Dinner meeting of the **Dayton Association**. Motion picture of the plastics industry, shown by Gordon Brown, general sales manager of the Bakelite Company.

NOVEMBER 10-12

Cincinnati—Annual Industrial Exhibit sponsored by the **Cincinnati Association**, at the Netherland Plaza Hotel. There were approximately fifty exhibits ranged in the halls adjacent to the Hall of Mirrors, covering a wide variety of industrial products and supplies. Dinner meeting, Thursday evening. Speakers: Mayor James Garfield Stewart, and Alan G. Goldsmith, Vice President of the Mead Corp., who discussed, "The Implications of International Conditions." Dinner dance and award of trophies, Saturday evening.

NOVEMBER 14

Wyomissing, Penna.—Dinner meeting of the **Reading Association**, at the Iris Club. Speaker: Stuart F. Heinritz, Editor of **PURCHASING**, "Back to Competition."

New Orleans—Dinner meeting of the **New Orleans Association**, at the St. Charles Hotel. Motion pictures of the oil industry were shown, and Fred Hagan spoke in behalf of the Community Chest.

Houston—Annual Ladies' Day luncheon meeting of the **Houston Association**. Special entertainment program, favors and prize drawing.

NOVEMBER 14-15

New York—Fifth industrial exhibit of member companies' products, sponsored by the **New York Association**, at the Hotel Pennsylvania. Seventy booths

provided an interesting and educational display of products and services. On Tuesday, the Association observed its twenty-fifth anniversary with a cocktail hour and reception in the Salle Moderne, followed by the Exhibit Dinner, attended by more than five hundred members, sales and managing executives. Speakers: George A. Renard, Executive Secretary of N.A.P.A., "From One P.A. to Another," and Bennett Chapple, Vice President of the American Rolling Mill Co., "New Horizons for Steel." President Harold K. LaRowe presided at the dinner meeting. J. Raymond Boyle was chairman of the Program Committee, George F. Plate chairman of the Exhibit Committee, and G. Everett McMillen chairman of the Dinner Committee.

NOVEMBER 15

Seattle—Ninth annual Advertisers Exhibit and Dinner of the **Washington Association**, at the Olympic Hotel. More than sixty firms were represented in the attractive and informative display of industrial products, which attracted a large number of visitors throughout the afternoon and evening. President Frank A. Carson presided at the dinner meeting, and Past President Herbert R. Washington served as toastmaster. Speaker: Eric A. Johnston of Spokane, Finance Chairman of the Washington State Progress Commission, "Washington Looks Ahead." Honor guests included Governor Clarence D. Martin; Mayor Arthur B. Langlie; President Ralph J. Marsh of the Manufacturers Association; President Walter Williams of the Chamber of Commerce; J. F. Meyer of Portland, Western Vice President of the N.A.P.A.; Lee Baumhover, National Director of the Oregon Association; E. B. Barteau, National Director of the British Columbia Association; and Frank D. Bryant of San Francisco, General Chairman of the 1939 Convention of N.A.P.A.

Akron—Dinner meeting of the **Akron Association**, at the University Club. Two sound pictures were shown, dealing with the subject of safety: "Approved by the Underwriters," shown through courtesy of the Underwriters' Laboratories, Inc., and "Always Trust in Life-Guards," shown through courtesy of the Goodyear Tire & Rubber Co.

Huntington, W. Va.—Plant visit of the **Tri-State Association**, at the Standard Printing & Publishing House. Dinner meeting at the Prichard Hotel. Speaker: D. L. Boyd, Vice President of the Standard company, "What the Purchasing Agent Should Know about Proper Printing and the Selection of Papers."

St. Louis—Executives Night meeting of the **St. Louis Association**, at the Hotel Statler. Speaker: Hon. Dewey Short, Member of Congress, "The Effect of New Deal Legislation on Future Business." Commodity outlook and discussion, led by William Krueger of Ralston Purina Co. "Business Barometers," a

forum by President E. M. Queeny of Monsanto Chemical Co., President E. J. Miller of St. Louis Screw Co., President W. K. Norris of McQuay-Norris Mfg. Co., Secretary W. C. Henning of A. Leschen & Son Rope Co., Vice President George Smith of Century Electric Co., and Secretary F. W. Russe of Mallinckrodt Chemical Co.

Fort Worth—Dinner meeting of the Fort Worth Association, at the Worth Hotel.

Buffalo—Dinner meeting of the Buffalo Association, at the Hotel Lafayette. Speaker: Alan V. Parker, President of General Abrasive Co., Niagara Falls, "The Wage and Hour Bill."

Pittsburgh—Dinner meeting of the Pittsburgh Association, at the William Penn Hotel. Speaker: W. Dean Keefer, Director of the Industrial Division, National Safety Council, Chicago.

San Francisco—Dinner meeting and annual Big Game rally of the Northern California Association, at the Elks Club. Football stars and prominent sports figures were among the guests of honor.

Omaha—Plant visit of the Greater Omaha Association, at the Iten-Barmettler Biscuit Co. Luncheon was served in the company cafeteria.

Montreal—Dinner meeting of the Montreal Association, at the Mount Royal Hotel. Speaker: Rev. W. X. Bryan, S. J., Professor of Economics and Sociology at Loyola College, "Forgotten Factors in Today's Problems."

NOVEMBER 16

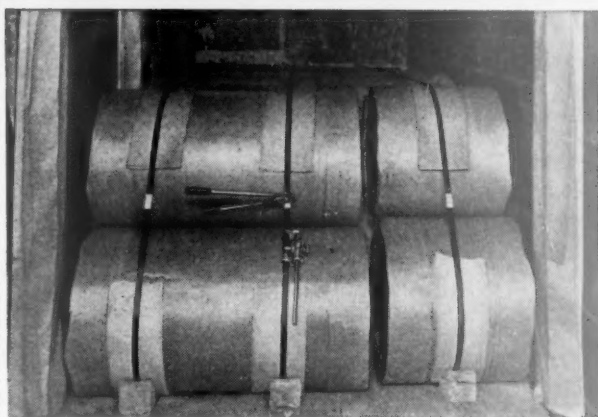
Boston—Plant visit of the New England Association, at the Boston Gear Works.

Glen Falls—Plant visit of the Eastern New York Association, at the Imperial Paper & Color Corp., manufacturers of wall paper and pigment colors. Dinner meeting at the Queensbury Hotel. Motion pictures of big game hunting in the Rockies. "Quiz" program on purchasing procedure. Hobby talk by Harold Frair, "Some Pieces of Furniture," with exhibits.

NOVEMBER 16-17

Chicago—Tenth annual Members and Advertisers Products Exposition, sponsored by the Chicago Association, in the Main Exhibit Hall and Grand Ballroom of the Hotel Sherman. In more than ninety booths, an attractive and informative display of industrial products held the interest and attention of members and visitors. Luncheon meeting, Wednesday noon. Speaker: Henry E. Seyfarth of Pope and Ballard, "The Wages and Hours Law." Technicolor sound film, "Steel—Man's Servant," presented

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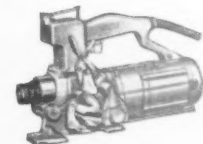
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through courtesy of Scully Steel Products Co. Banquet session, Thursday evening. Speaker: Frederic Snyder, journalist and commentator, "Keeping Ahead of the Headlines."

NOVEMBER 17

Springfield—"Sales Executive Night" meeting of the Western Massachusetts Association, at the Hotel

Kimball. Speakers: John K. Conant, Purchasing Agent of the General Printing Ink Co., New York, and Joseph H. Lee, Assistant Manager of the Lubrication Department, Shell Union Oil Corp., New York. The meeting was preceded by a plant visitation at the Westinghouse Electric & Mfg. Co., East Springfield, and a cocktail hour at the Kimball Hotel.

Cleveland—Mill Supply Meeting of the Cleveland Association, at the Cleveland Hotel. Speaker: James Channon, Managing Editor of *Mill Supplies*. Sales executives and personnel of Cleveland mill supply houses were invited to participate in this meeting.

Toledo—Dinner meeting of the Toledo Association, at the Waldorf Hotel. Speaker: Whiting Williams, industrial consultant, "What Price Willing Workers."

Birmingham—Luncheon meeting of the Birmingham Association, at the Redmont Hotel. Speaker: F. W. Sheppard, District Sales Manager, Harbison-Walker Refractories Co., "The Refractories Industry in the Birmingham District and Its Relation to the Steel Industry."

NOVEMBER 21

Milwaukee—Members of the Milwaukee Association were guests at a meeting of the Milwaukee Chapter, National Association of Cost Accountants, at the University Club. Sam Marsh, Professor of Accounting, Washington University, St. Louis, spoke on "Inventory Control and Valuation," and A. C. Hase-low of Menasha led a case study discussion.

NOVEMBER 22

Tulsa—Dinner meeting of the Tulsa Association. Speaker: P. E. McKinney, metallurgical engineer, Bethlehem Steel Corp., "Development of Metallurgy in the Steel Industry, with Particular Reference to Oil Country Problems."

Detroit—Annual Pre-Thanksgiving Party of the Detroit Association, at the General Motors Auditorium.

Oakland—Luncheon meeting of the East Bay Group, Northern California Association, at the Lake Merritt Hotel. Speaker: Eugene W. Roland, member of the Oakland Board of Port Commissioners, "Impressions of Central Europe."

Fort Worth—Plant visit and luncheon of the Fort Worth Association, at Armour & Co.

Syracuse—"Past Presidents' Night" meeting of the Syracuse & Central New York Association, at the Onondaga Hotel. Former officers of the association presented a brief review of the history of the organization.

Continued on page 51

PERSONALITIES in the NEWS

DAVID H. THOMAS, Purchasing Agent for the Utah-Idaho Sugar Co., Salt Lake City, was last month elected to the Utah State House of Representatives from the 8th Legislative District, having the distinction of being the only man elected on the Republican ticket in Salt Lake County, out of thirty-three candidates. Mr. Thomas has been active in public affairs, serving currently as a member of the Salt Lake Board of Education and director of the Salt Lake County Red Cross. He was formerly vice chairman of the Community Chest.

JAMES J. ROBERTS, JR., Purchasing Agent of the Traylor Engineering Co., addressed the Four Square Club of Allentown, Pa., November 1st, regarding his recent trip through European countries.

LYNN L. WHITE has been appointed vice president of the Erie Railroad, in charge of purchases and development. His headquarters will be at Cleveland. Mr. White has been associated with the Erie since 1918, and for the past nine years has served as assistant to the president.

A. V. SWIFT has been appointed purchasing agent of E. B. Badger & Sons Co., Boston, succeeding CARL W. GRAM, who will devote his entire time to supervision of the company's large construction projects in this country and abroad.

W. A. KIRN has been appointed purchasing agent of the Claremont (N. H.) Paper Co.

E. H. WEAVER has been advanced to the position of Assistant Manager of Purchases for the Union Oil Co. of California, at Los Angeles. Mr. Weaver has been with the company since 1918 and served for several years as District Purchasing Agent at Seattle. He was transferred to Los Angeles in 1937, for general

duties in the purchasing department, leading to the present appointment, which became effective October 1. He has been active in association work, and was N. A. P. A. Vice President for District No. 1 in 1930-1931.

VIRGIL E. JONES has been appointed assistant purchasing agent of the Nevada-California Electric Corp., Riverside, California.

JOHN BABCOCK has been appointed purchasing agent for the Pollock Paper & Box Co., Dallas. Mr. Babcock is a former president of the Dallas Association, while buying for the Watson Co., but has been out of purchasing work for a number of years.

JOSEPH FOLEY, formerly in charge of purchasing and dealer contacts for the Graham-Paige Motors Corp., has been named assistant advertising manager of that company.

W. J. MADISON has been appointed purchasing agent of the Metropolitan Y.M.C.A., Detroit, succeeding LON AVERY, retired. Mr. Madison has been with the purchasing department of the Michigan Central Railroad for the past 20 years.

JACK L. HARPER has been appointed City Purchasing Agent at Dallas, succeeding JOHN KEMENDO, who resigned recently to enter private business. Mr. Harper has been serving as acting purchasing agent during the past several weeks.

OSCAR A. EDWARDS of East Fork Township, Ill., has been appointed purchasing agent for the Montgomery County Board of Supervisors.

G. C. McLARON has been appointed purchasing agent for the Shell Petroleum Corp. at Tulsa, succeeding W. H. BRATCHES, who

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has been transferred to the San Francisco office of the company. Mr. McLaron has been assistant to Mr. Bratches.

MRS. MABEL SMITH has been named purchasing agent for Alameda County, California, succeeding the late Mel Tobriner. Mrs. Smith has been an assistant in the department for 12 years, and became chief assistant on November 1st when Mr. Tobriner was appointed to head the department. A civil service examination will be held shortly for the post of chief assistant.

H. D. PATRIDGE, Director of Purchases for the Indian Territory Illuminating Oil Co., has been elected president of the Bartlesville (Okla.) Kiwanis Club for 1939. Mr. Patridge has previously served as vice president and director of the organization.

S. B. GILLETTE, Assistant Purchasing Agent for the State of Oregon, recently lectured on purchasing methods and procedure before the class in state and local government at Willamette University, Salem, Oregon.

Futures Trading Down

Although the volume of trading in commodity futures picked up considerably during the past few weeks, as a result of extensive December liquidation in most futures markets, the total volume of trading in commodity futures showed a further drop in November.

The total for the month was 142,275 contracts, as against 155,197 contracts in October. The November figure was the smallest total for any month this year to date.

On a daily average basis the November decline was less pronounced, however, since there were only twenty-one full trading days in November, figuring Saturdays as half trading days. The daily average trading volume for the month amounted to 6,775 contracts, as against a daily average of 6,897 contracts in October and 9,761 contracts in September. The daily average trading volume for the last week of

the month alone, when the pressure of December liquidation was mostly felt, rose to 7,898 contracts.

A sharp rise in activity was witnessed last month only in the cocoa futures market with an increase in trading volume to 8,371 contracts, as compared with 5,695 contracts during October.

Other markets showing a gain in activity last month included corn, rubber, lard, sugar and pepper, while activity in cottonseed oil, copper, hides and wool tops was fairly well maintained.

One of the current features in commodity futures trading is the increasing activity in a number of the "minor" markets, notably copper, wool tops and pepper. These three markets may soon outrank the raw silk futures market as far as activity is concerned.

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Obituary

GEORGE R. BELLIS, formerly purchasing agent for the Rochester Electrical Supply Co., and more recently associated with the Wehle Electric Co. at Binghamton, N. Y., died in the latter city, October 25th.

RALPH A. BUTLER, 51, formerly general purchasing agent for the Donner Steel Co., Buffalo, up to the time of its consolidation with Republic Steel Corp. in 1930, and since that time deputy superintendent of schools in that city, died November 2nd at his home, following a heart attack.

WILLIAM C. ROSS, 58, formerly purchasing agent and plant superintendent for the Boston *Herald and Traveler* up to the time of his retirement three years ago, on account of ill health, died November 5th at his home on Lake Poplatic, West Medway, Mass.

SAMUEL W. GILLESPIE, 87, who retired in 1931 from active service as purchasing agent for the Fidelity National Bank & Trust Co., Kansas City, Mo., died November 12th at San Diego, Cal., where he had made his home for the past seven years.

JOHN W. LEBZELTER, 42, Purchasing Agent for the Bade-Cummins Mfg. Co., Louisville, died suddenly on November 13th at the home of his sister in Lexington, Kentucky.

STANLEY J. HANNON, 40, Purchasing Agent for Standard Brands, Inc., at Cincinnati, died November 13th after a month's illness. He had been associated with the company for eighteen years.

WILLIAM A. ROWAN, JR., 40, Assistant Purchasing Agent for the Newspaper & Magazine Paper Corp. New York City, died at his office, November 15th.

MEL TOBRINER, 63, Purchasing Agent for Alameda County, California, died November 17th at his home in Oakland, following a brief

illness. Mr. Tobriner had been in the employ of the county for 36 years, all but a few months of this service being in the purchasing department, where he was first assistant to the purchasing agent for many years. Only two months ago he was named Purchasing Agent, following the retirement of John M. Sabin, his predecessor in the office.

HENRY D. TAYLOR, 89, formerly purchasing agent and more recently technical consultant and paper manager for the Phelps Publishing Co., died suddenly at his home in Springfield, Mass., November 20th. Mr.

Taylor had recently completed 60 years of continuous service with the company, 35 of these being in the capacity of purchasing agent. He was active in the business up to the day of his death.

CHARLES A. HARDING, 67, formerly purchasing agent for the Commonwealth Edison Co., Chicago, up to the time of his retirement from active business in 1933, died of a heart attack at his home in Wilmette, Ill., November 24th.

NORMAN S. REPPERT, 54, vice president of Luden's, Inc., Reading,

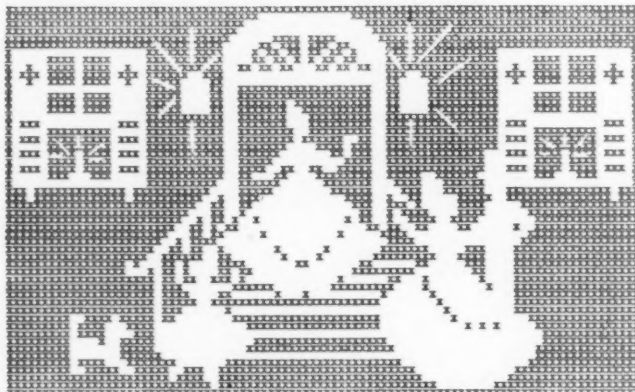


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Penna., died November 24th. Mr. Reppert was in charge of sales for his company in recent years, but as purchasing agent of the firm he was one of the organizers of the Reading Purchasing Agents Association and served as its first president.

JAMES A. EDGERTON, 69, who was purchasing agent for the Post Office Department from 1913 to 1920, and since that time president of the International New Thought Alliance at Denver, died at Alexandria, Va., December 3rd. Mr. Edgerton was a candidate for the Vice Presidency of the United States in 1928, running on the Prohibition Party ticket.

New World Price Index

A new world price index, based on identical commodities and weights, has been developed jointly by General Motors Corporation and Cornell University and will be published weekly. The new index will be known as the General Motors-Cornell World Price Index.

The index, covering forty identical commodities for each country so as to facilitate world comparisons, will be released each Monday morning. Collection of the commodity prices from sources over the world and computation of the index numbers are being handled jointly by General Motors and the New York State College of Agriculture at Cornell. The prices used in the index are being collected weekly from the most responsible agencies in the different countries.

Countries from which prices are being used at present include: United States, Canada, United Kingdom, Australia, New Zealand, The Netherlands, Belgium, France, Sweden and Finland. The list of countries from which prices are obtained has been limited at first to those in which it has been possible to arrange immediately for the collection of reliable and accurate information. No prices are included from countries in which artificial restrictions on exchange rates exist. It is expected that additional countries will be added to the list from time to time.

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Among the forty basic commodities included in the index figure are: grains, live stock, live stock products, fats and oils, coffee, cocoa, tea, sugar, textiles, fuels, metals, rubber, hides, lumber, newsprint and linseed oil.

In computing this index each commodity is weighted according to its relative importance in world production, identical weights for the commodities being used in the index of each individual country. In the course of the computation at Cornell, the indexes from the various countries, which are in terms of paper currencies, are reduced to a comparable basis in gold and then weighted in accordance with the relative importance of the world trade of each country.

It was stated that gold was used as a base simply because it is a good common denominator and that its use does not in any way involve any monetary theory. The five-year period 1910-1914 inclusive was chosen as the base price period for the index since it was a period of comparatively stable economic and currency conditions for all of the countries from which prices are being collected.

For purposes of comparison, key figures in the new index are given as follows: 1910-1914: 100; 1926: World (in gold) 144; U. S. (in gold) 150, (in currency) 150; October, 1938: World (in gold) 61; U. S. (in gold) 63, (in currency) 106; Week ending November 19, 1938: World (in gold) 60.7; U. S. (in gold) 62.9, U. S. (in currency) 106.5.

**Petroleum—from
Well to Market**

(Continued from page 24)

facture it into gasoline for which there will be an eventual but probable unprofitable market. If this re-run occurs at the end of the winter season, it might, providing the experience of other refiners is similar, conceivably raise the price of gasoline and the other unavoidable by-products.

Low demands for railroad and industrial oils might also have an influence on the market for other products. The ancient law of hy-

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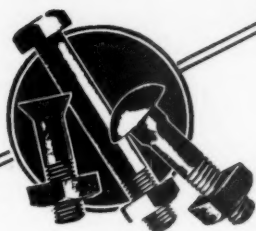
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draulics applies to the price structure of oil-products. A high or unexpected demand for one type of product may mean that the refiner will have an over-stock of some auxiliary by-product for which there is no immediate demand. Storage of such by-products is usually a problem. Thus, the over-stock is purely unavoidable and will probably generate a price disturbance.

Proration, or the establishment of rules or agreements regulating the production of crude oil to about match consumption, is effective in many oil-producing states and this has been, in the opinion of many oil men and purchasers, a decided and beneficial stabilizing factor as it eliminates the depressed market which exists when surplus crude oil is produced beyond the ability of the market to absorb it. Rising stocks of gasoline seldom accompany declining stocks of crude. Indeed, the reverse is usually true. When consumption falls off, rising stocks of gasoline accumulate. But oil production, it must be remembered, is a fairly level line. Fortunately, rising stocks of gasoline come, as a rule, only with cold weather. When warm weather generates consumption, both gasoline and crude stocks show a shrinkage. During the darkest days of the depression years, gasoline consumption fell off substantially; however, within the past few years national consumption has shown normal increases. Gasoline consumption is a fairly reliable economic barometer. According to Department of Commerce surveys, fully 65% of the motorist customers of the oil industry earn less than \$30 per week; consequently depression intervals are quickly reflected in the oil industry.

The transportation system of the oil industry has had a remarkable and substantial growth. In addition to its 280,000 miles of pipelines, millions of barrels of crude oil and oil-products are shipped in tankers—in fact, fully one-third of all water-borne tonnage in American world trade is devoted to oil and its products. These tankers may move crude oil from the Gulf Coast to



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eastern seaboard refineries; again they may move refined products from Gulf Coast refineries to market. Crude oil or oil-products may be moved from Mexico or South American oil fields to American or foreign markets. Tankers, of course, move oil-products from the United States to world markets.

Last year, when the Sino-Japanese War broke out, so many tankers were employed in the shipment of oil products to the warring countries or to neutral countries expecting war, that an acute shortage of tankers resulted with an upswing of gasoline prices in this country because the same ships could not be used to ship crude oil or products from the Gulf Coast or California to American markets.

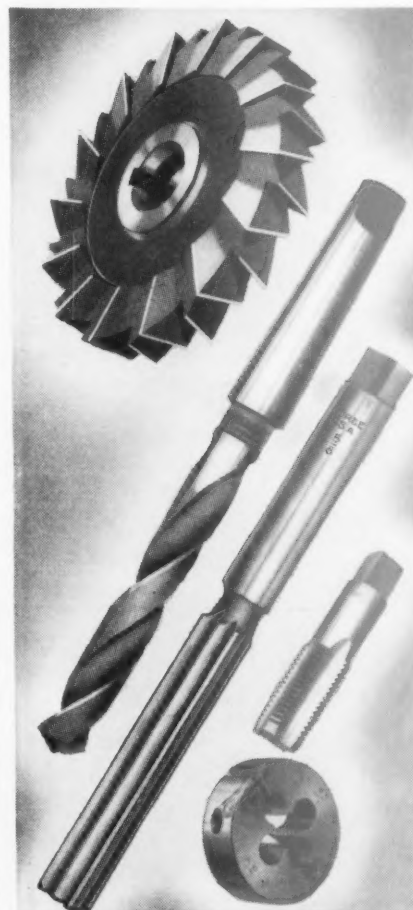
The oil industry owns or leases 150,000 tank cars and pays annual freight bills to the tune of \$250,000,000. It owns and operates more than 40,000 tank trucks and trailers, to say nothing of 100,000 trucks it uses for purposes other than the transportation of processed materials. Gasoline is conveniently available at over 200,000 service stations. One in eight sales establishments deals primarily in petroleum products and sales constitute approximately 7% of retail and wholesale trade in the United States.

Is refining concentrated close to producing areas or close to consuming areas? A most difficult question to answer! Indeed, both circumstances prevail. Certain economies exist, for example, for the refineries of Oklahoma, Kansas and other inland states, to be located close to the producing fields. Refined products represent less bulk to move. Refineries in the Chicago area are served by pipelines coming from nearby fields and the Mid-Continent; Philadelphia refineries are served by pipelines and tankers. The same is true of New York.

Research, expensive and unremitting, assures the consumer of oil-products that the industry will keep pace with every mechanical advancement and improvement. Depletion of the supply of crude oil is no longer a worry within or without the industry.



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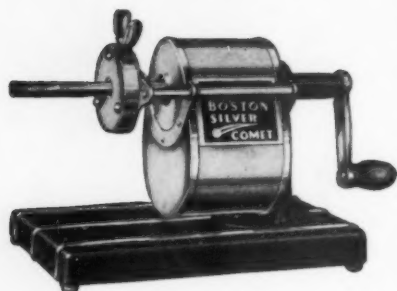
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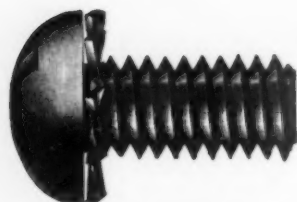


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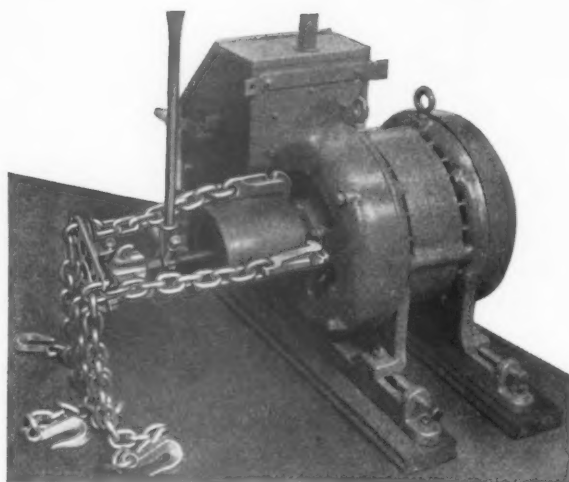
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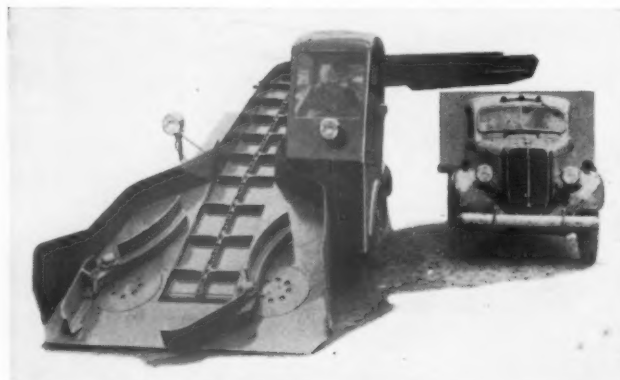


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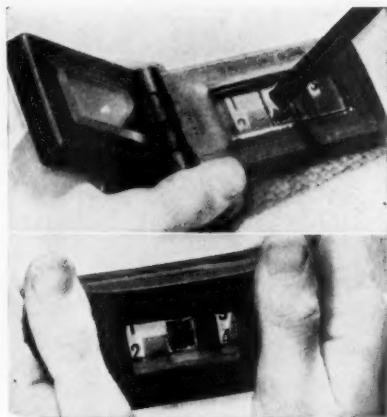
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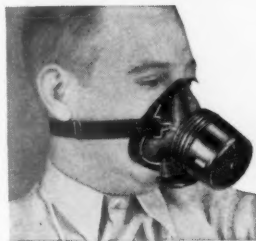


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ings distorted by heat treatment; straightening line shafts; inserting or removing bushings, pins, bolts and shafts; pulling and pushing gears, pulleys and wheels; clamping parts for welding, drilling, riveting and assembly; separating heavy dies; lifting heavy machinery or lifting the cross head of a punch press to remove weight from threads, permitting easy turning of the adjusting collar. Millwrights and maintenance men will find many other jobs greatly simplified by the use of this equipment.

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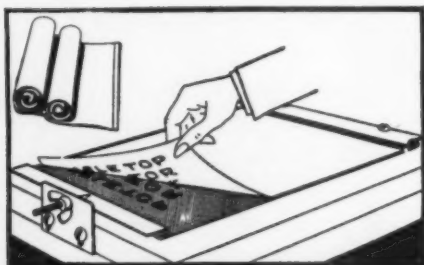


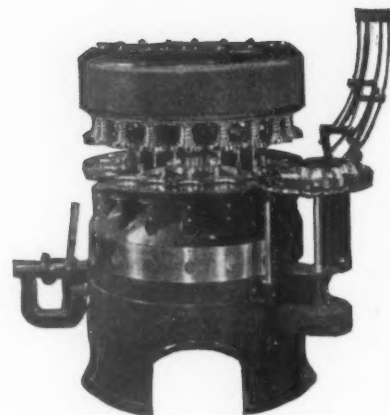
TABLE-TOP DUPLI- CATOR

No. 700

RETAINING ONLY THE ABSOLUTE necessities for doing a high quality duplicating job, this simple and inexpensive equipment can be quickly attached to a table-top or other flat wooden surface, and will produce up to 100 copies from one original typewritten or hand-lettered sheet. The complete outfit consists of two film holders, adjusting device, two $8\frac{1}{2} \times 16$ " gelatin films, and a sponge for cleaning. The set weighs $1\frac{1}{4}$ pounds, can be disassembled in a moment, and fits into a convenient small container. Built sturdily to withstand long usage. Additional gelatin films can be procured as needed. Adapted to inter-office correspondence, form letters, bulletins, shop and factory forms, lesson sheets, forms, charts, etc.

PAGE 48

FILLING MACHINE



No. 701

ILLUSTRATED IS AN 18-valve filling machine, handling cans up to No. 3 diameter at speeds of 180 cans per minute, and equipped for direct connection to any standard closing machine. The operation is wasteless and accurate to a hairline degree; drip-proof and leak-proof, with valve readily adjustable to the level of fill in each can, and interchangeable from juice fillers to syrups. The design is featured by utmost sanitation. Valves are quickly removable for easy cleaning, and because of the turtle-back base, all accumulations flush off onto the floor. The working parts are well protected. Other models in this new line are 6, 10, and 12-valve units handling cans from No. 2 up to No. 10 at comparable speeds.

Use coupon page 46



FLUORESCENT LAMP

No. 702

NEWLY DEVELOPED IS this tubular light source, 4 feet in effective length for industrial applications where critical seeing tasks require high illumination levels. The inside coating of the tube is a highly efficient fluorescent material which converts ultra-violet radiations produced within the tube into visible light by means of a high ratio energy transformation. The efficiency of this equipment is 50 lumens per watt, and its rated life compares favorably with that of other industrial light sources.

Use coupon page 46

PRE- LUBRICATED PILLOW BLOCKS



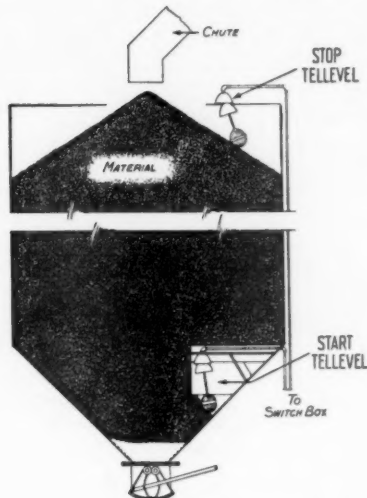
No. 703

OUTSTANDING FEATURE OF this new line of ball-bearing pillow blocks is the positive and permanent seal provided by a pair of inner and outer steel seals which are pressed together and become a permanent part of the bearing, forming a grease-tight chamber for race grooves and rolling elements. External seals are lined with felt, assembled with a running clearance sufficient to prevent pressure and with a centrifugal action that prevents glazing and permanently excludes all foreign mate-

PURCHASING

rials. The bearing is self-contained and self-aligning, and is available in standard non-expansion type or in expansion type for special service. Fitted with alemite hydraulic fittings. The pillow block itself is a rigid one-piece casting, balanced in design to reduce strains to a minimum, and spot cored to provide a flat seat for washers and maximum holding power for bolts.

Use coupon page 46



AUTOMATIC STORAGE CONTROL

No. 704

THIS SENSITIVE BUT SIMPLE device provides accurate control of the level of liquids or bulk materials in storage, whether in tanks, bins or hoppers, by attachment to the circuit governing the operation of conveyors or elevators. It consists of three mercury switches in series, with a sensitive cast aluminum housing having a bakelite sphere extending downward to contact the material at a predetermined level. The housing is suspended from above by a conduit pipe, which permits the device to swing freely. A single installation can be used to stop the flow of incoming material when the bin is full, or a dual installation as shown in the illustration can be used for both starting and stopping the flow. There are no wearing parts, and operation is entirely automatic.

Use coupon page 46



ROTARY RECORD SYSTEM

No. 705

USING THE PRINCIPLE of rotation, which brings the record to the operator instead of requiring the operator to go to the record, these record systems, available in a variety of designs applicable to particular uses and installations, speed up posting and reference, coordinate these operations with related duties, and are adapted to most favorable lighting and writing conditions in use. The units are mounted in portable cabinets, bringing the record to desk height and in the natural line of vision wherever used. Operating efficiency and production is said to have been stepped up as much as 75% in banking, commercial and industrial installations by the use of this equipment.

Use coupon page 46

DECEMBER 1938

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WELDLESS RINGS — SPINDLES
VALVE TRIM
MOLDS AND SPECIAL SHAPES

IRVING FORGINGS CO.

SYRACUSE, N. Y.

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High-Speed-Edge
HACKSAW BLADES**

Where ordinary high speed steel blades give an average of 25% of their possible cutting life, every MARVEL Blade delivers full cutting life for MARVELS are NON-BREAKABLE.

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ARMSTRONG-BLUM MFG. CO.
"The Hack Saw People"
5760 Bloomingdale Ave., Chicago, U. S. A.

PAGE 49

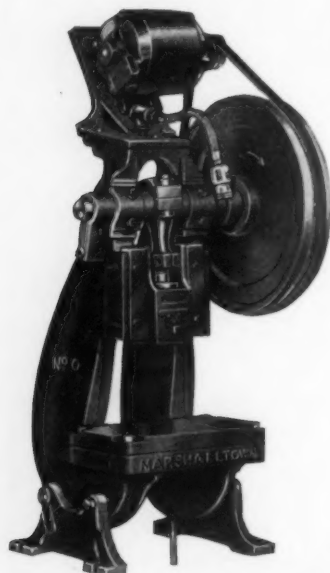
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 To Purchasing Agent:
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 able we ever used. Order more.
 Shipping Dept.

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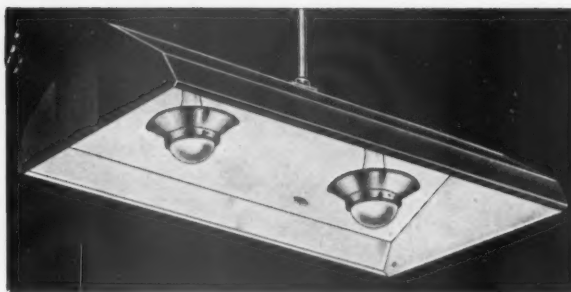


POWER PRESS

No. 706

THE BENCH-TYPE POWER press shown above has a rating of 5 tons. It is equipped for a $1\frac{1}{2}$ " stroke and $1\frac{1}{2}$ " slide adjustment. Distance between gibs measures 4", and the distance from the bed to the bottom of the slide is 6". The bottom of the slide measures $3 \times 3\frac{1}{4}$ ", throat depth $3\frac{1}{4}$ ", opening through the back of the press is $5\frac{1}{2}$ " wide, and opening in the bed measures 4×5 ". The clutch can be set for a single stroke or for continuous operation. The assembly shown includes an individual belt-connected motor, operating at 1,750 rpm., and 16" flywheel operating at a maximum of 215 rpm. It can also be specified for line-shaft operation.

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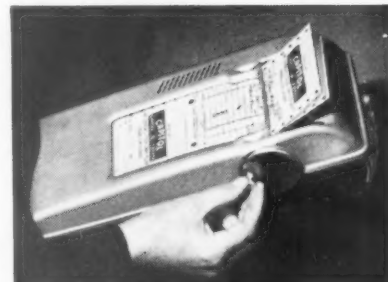
LIGHTING FIXTURES

No. 707

THIS NEW INDUSTRIAL lighting fixture is designed for use with 200-watt silvered bowl lamps, and has special self-aligning Alzak ring-type baffles that shield the luminous portion of the lamps from any angle. The reflector body is of porcelain enameled steel, finished with dark green exterior and white interior. This finish has a reflection factor of from 78 to 82% and is unaffected by age or use, resulting in high efficiency and low maintenance costs. The fixtures are furnished with pipe flange at top center, tapped for $\frac{1}{2}$ " conduit. The model illustrated is a complete 3-foot solid-end unit for use over individual benches, and has holes to permit bolting several units together to form a continuous line. It accommodates two lamps on 18" centers. The fixture is also available in open-end sections five and ten feet in length for making a continuous installation of any length. In these models the lamps are spaced on 30" centers.

Use coupon page 46

PORTABLE
 AUTO-
 GRAPHIC
 REGISTER



No. 708

USING A FLAT CONTINUOUS pack of triplicate forms, this new portable register affords a convenient means of handling orders, count tickets, shipping reports, packing slips, etc. The forms are fed through the register by means of a small hand wheel on the side of the housing. The original and one carbon copy are ejected, while the second carbon copy is retained in a locked compartment without separating it from the continuous strip. Since this copy can be removed only by an authorized person having the key to the compartment, it gives a positive check on all transactions recorded. The entire device weighs only $3\frac{1}{2}$ pounds. It can therefore be held conveniently while the blank forms are being filled in, and can readily be taken to the point of use, whether in various parts of the plant, or in shipping and receiving departments.

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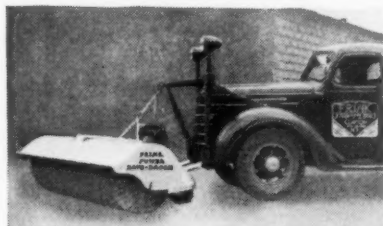


HEAVY DUTY BOX WRENCHES No. 709

A NEW LINE OF HEAVY-DUTY box wrenches is now available in two types—a 15° angle, and a double-offset design—each type coming in a range of seven sizes with double hexagon open-

ings from $1\frac{3}{8}$ to $2\frac{1}{4}$ inches. They are made of chrome-alloy steel, drop-forged, heat treated and heavily plated, with polished heads. All fourteen are interchangeable in a seamless tubular handle, 30 inches long, which provides the extra leverage needed in tightening or breaking loose large diameter nuts on trucks, buses, tractors, steam shovels, road and industrial machinery. Positive connection with the handle is provided by a spring ball plunger in the end of the wrench shank which fits into a hole in the handle. Any two units can be used to make a double-end wrench for greater convenience in use.

Use coupon page 46



SWEEPING MACHINE

No. 710

POWERED by a 4 hp. air-cooled Wisconsin engine, this rotary brush attaches to the front of a motor truck. It is supported by pneumatic tired casters and a chain suspension unit that permits adjustment as to height and also provides for oscillation so that the brush can follow an uneven surface. The brush and drive shafts are fitted with sealed self-aligning ball bearings. The unit is adjustable to sweep to the right or left, or can be locked in the central position. The brush itself measures $8\frac{1}{2}$ feet in length and $2\frac{1}{2}$ feet in diameter.

Among the Associations

(Continued from page 38)

Seymour, Conn.—Annual meeting of the **Connecticut Association**, at the Swan Memorial. Speaker: Dr. Allan A. Stockdale, National Association of Manufacturers, "The Future of America." C. W. Leonard of the Bristol Company, Waterbury, was elected president of the Association for 1939. Other officers chosen were: *Vice Presidents*, R. C. Swanton of Winchester Repeating Arms Co., New Haven, and L. D. Muldoon of Jenkins Bros., Bridgeport; *Secretary*, F. A. Neumann of New Haven Clock Co.; *Treasurer*, J. P. Camp of Phoenix Mutual Life Insurance Co., Hartford; *National Director*, H. F. Roszelle of Fuller Brush Co., Hartford.

Salt Lake City—Members of the **Utah Association** were guests at the annual party and entertainment given by the Utah Manufacturers' Association, at the Newhouse Hotel.

NOVEMBER 28

Bethlehem, Penna.—Dinner meeting of the **Lehigh Valley Association**, at the Bethlehem Club. Speaker: Harold I. Patten, Executive Secretary of the Philadelphia Association.

Providence—Dinner meeting of the **Rhode Island Association**, at the Narragansett Hotel. Motion picture of the steel industry and discussion of the business outlook.

DECEMBER 1938

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Delivery is prompt.

Forgings are to exact specification.

All types and sizes of forgings—hammer, drop, upset—made in one plant.

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Worcester—Dinner meeting of the **Worcester County Club**, at the Hotel Bancroft. Speaker: Congressman Pehr G. Holmes, who discussed the provisions of the Wage and Hour Act and Social Security legislation, and predicted a number of amendments to clarify these laws.

NOVEMBER 29

Oakland—Luncheon meeting of the **East Bay Group, Northern California Association**, at the Lake Merritt Hotel. Speaker: A. C. Taft, Chief, Bureau of Fish Conservation, "Restocking California Streams with Game Fish."

NOVEMBER 30

Rochester—Dinner meeting of the **Rochester Association**, at the Rochester Club. Speaker: Archbold H. Robinson, Assistant Treasurer of the Eastman Kodak Company, "The General Outlook for Recovery."

Industry Steps In

(Continued from page 25)

prevent more serious consequences. Also, some industries maintain sanatoriums to which employees who break down with tuberculosis are sent for cure and arrestment of the disease. Wherever possible the employee's job is waiting for him upon his return from the sanatorium as an arrested case and with certification that he is physically able to resume work.



NEW easily applied NON-SLIP Floor Wax

You can get real traction and safe footing on the new **FLEXROCK NON-SLIP WAX** for office floors, industrial floors, etc. It is specially processed from pure Carnauba wax and other ingredients to provide the *non-slip* feature. Used as a safe, protective coating and to improve the appearance of such hard surfaces as Concrete, Terrazzo, Marble, Ceramic Tile . . . or such soft surfaces as Wood, Rubber Tile, Asphalt Tile, Linoleum, Cork, Wood Blocks. Simply apply with a cloth or mop . . . no rubbing . . . no polishing. Develops its own bright gloss. Dries in 20 minutes. Though low in cost, tests prove **FLEXROCK NON-SLIP WAX** will outwear other waxes. At any time, worn spots may be touched up without showing the overlapping difference between the old wax and the new wax. Sticks tight and wears durably, regardless of floor finish.

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NON-SLIP

Modern industrial management is taking a humane attitude in helping along the ardent campaign against tuberculosis. This is being done through modern methods for the elimination of fatigue, for proper ventilation and other safeguards for adequate plant sanitation. Also, medical control of the worker's health by means of pre-employment and subsequent periodic medical examinations, constant X-raying of workers exposed to harmful dusts and fumes, immediate hospital or home care for the employee showing evidence of tuberculosis, and assurance of some economic security for the family while the head of the family is away curing.

When the situation is such that employees in small industries can have available to them industrial medical services comparable to the larger industrial and mercantile establishments, we can look forward to routing tuberculosis from one of its last strongholds, the industrial wage-earning groups. This can be accomplished. But it will require the cooperation of all agencies interested in industrial health as a tuberculosis problem. The definite need for finding the early case of tuberculosis among young men and women is demonstrated by the occurrence of so many cases during adult years. Industry and the community will rise to the occasion and not wait until the person has become ill, but will seek him out before illness and manifest disease set in. Enlightenment and education of employee and employer will bring this about. The National, state and local tuberculosis associations supported by the sale of Christmas Seals aim to provide for the dissemination of this basic information and encourage the development and use of modern methods for the control of tuberculosis among industrial wage-earners.

Business Policies

(Continued from page 17)

may not like it, but it is what our government officials have said they want; management of finance and business through monetary and non-monetary controls operated by the government. Those controls were used last year to check a runaway price and business trend, and their use started a deflationary trend. Now they are being used in the opposite direction to create an inflationary trend and, behind all the maneuvers and face saving, that is being done and it will be effective again, as it was in 1933 and 1936. Politicians follow sentiment, they do not create it.

Where do these changes take us? Apparently around a circle, for inflation creates financial fears and attempts to remove those financial fears bring deflation, loss of confidence and depression. We have tried planning by both government and business. N.R.A. and the Guffey Act were sponsored and operated by businessmen, but where did they take us?

To support an artificial price for coal, we are asked to put a tax on fuel oil. That creates a vicious, foolish circle, but if the trade associations of other industries are to regulate their prices, coal should be given that doubtful privilege, too. In my estimation, all of our plans have only shortened the business cycles and increased their severity. Governmental policies have frequently been pictured as elastic, on a 24 hour basis. Business will have to accept that policy and get into the game, until 1940 at least.

In business, the purchasing agent frequently goes in as quarterback, so don't call for a speculative forward pass when in dangerous territory. But don't forget it is a good profit gaining play when conditions are right, and they are at or near that point now. The long-term trend of commodity prices should be downward but so should the trend of government debt and taxes be downward. Therefore, we are faced with a reality and not a theory.

Not a single group wants lower prices for its products. Labor demands higher wages, farmers want high prices, and business wants larger profits. Government wants more taxes and must support high wages, high prices and good profits in order to support the tax burden. So what is economically unsound, becomes politically sound and necessary. That is the grim reality facing our political leaders. Bankrupt or unprofitable business cannot support their activities. Do they want the utilities of the country in the condition the railroads are in? Do they want the steel industry in the condition the coal industry is in? Hardly—whom would it pay?

Why not get together, then, and forget the mistakes of the past? Business and financial leaders made plenty of them and so has government.

Let's decide we want the capitalistic system, that we will make it work, that we will accept its penalties to secure its rewards. There are normal risks in business just as there are in life. We should try to reduce the hazards, but our mania for stabilization, security, cooperation and plans in a world that was never meant to be stabilized or secure, is destroying our economic development and our individual initiative. If we want progress and freedom, we must pay their price.

We must remember that distributing wealth does not create wealth. Taking from one group to give to another does not create wealth, and it makes no difference if the taking is done through pensions, taxes, wage rates or prices.

One of our basic difficulties is the difference between raw material prices, the price paid the producer and the price paid by the consumer for the materials made from those raw materials. In between, we have many costs—manufacturing, labor rates, distribution, taxes, profits, and now we are talking of pensions. Any increase in these various cost factors increases the maladjustment and magnifies our difficulty, and regulations and restrictions to increase prices and protect profits are just as unfair and uneconomic as the labor or pension costs we rightfully oppose.

That, I believe, represents the views of important leaders on our Temporary National Economic Commission, and other important governmental officials. That, I know, represents the views of many of our business leaders. Therefore, we have a trend toward greater understanding and cooperation between business and government, and that is one of the most helpful signs that our problems can be and will be solved.

In the contest for export trade, as well as in the effort to maintain domestic purchasing power, it will be de-



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Vejo-gummed TAPE

It's a brand new tape—the first really big improvement in years.

Why?

- - because "Vejo-Gum" is a pure vegetable product whose fibres penetrate deeply, evenly and completely.
- - because it takes water in a smooth, even film (no mottling). Water really agrees with it.
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- - and finally, because it is odorless and tasteless.
- - an advantage you can't overlook on countless jobs.

THE BROWN-BRIDGE MILLS TROY, O.

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knives are standard equipment with users who want the best.

Behind each Coes knife is more than one hundred years of experience. We are not content to rest on our record, but are constantly improving our product and meeting and solving new problems such as higher speeds, new materials to be cut and new applications of edges.

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DEPEND
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What carries weight in any human endeavor is practical experience, for the experienced have "the edge." They know the direct routes to reach the goal set.

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cidedly to our advantage to price our manufactured goods just as reasonably as we possibly can and, at the same time, be fair to all of the elements which contribute to a successful commercial structure.

Believe it or not, business trends, especially industrial production, are making history. Last year we had the sharpest decline ever known and, since early June, we have had an unusually rapid increase in the volume of production. World affairs slowed it down for a few weeks, but we seem to be on the way again with production increasing. Inventories will fade fast and employment is increasing. The heavy industries are increasing production. Government spending for public works and armaments is increasing and will be a con-

siderable factor for some time. Commodity prices are tending to stiffen and advance, so that in spite of recognized dangers of mounting debt and taxes, business prospects for the next several months are the best they have been for some time.

One of the healthiest factors has been the strengthening of raw material prices while finished goods continued to decline. We are probably moving rapidly from a buyer's market to a seller's market in some lines. We may soon forget that a super salesman is the fellow from the main office with a lower price, because we had an election the other day and it did happen here. All of the things which we were told would bring confidence and prosperity have become a reality, and it's too good to be true, almost.

Now is the time for all good men to come to the aid of their country. If they do, happy days are here again, and prosperity can last a few years at least. But it is going to require constructive leadership from businessmen and constructive leadership for labor in co-operation with constructive leadership from government.

If businessmen adopt a resentful, get even, kick-around attitude toward government as they did only a few years ago when N.R.A., A.A.A. and a few other emergency experiments fell down or were kicked out by the Supreme Court, and the New Deal seemed to be on the run, 1940 will be only another 1936. The November election was again a result, just as the election of 1932 was. Remember that?

We need to carefully analyze and correct mistakes that have been made in labor legislation, farm legislation and tax legislation, and we need just as much to analyze and correct mistakes in uneconomic protective measures for pressure groups of businessmen—price fixing legislation, price maintenance legislation and so-called fair trade laws of one kind and another.

Business leadership is on the spot. I hope it makes good on the promises made recently that it does recognize and respect its social responsibility. I hope our business leaders and especially those in trade association leadership will keep one question on the docket for discussion. Are we justified in doing this? Does it pay? Not now, but permanently?

Business is no longer a poker game. It is more like chess or contract. You can't always win every deal and it is the rubber that counts. We can make democracy and the capitalistic system work, but only if we socialize or liberalize our democracy. Let's do that. We must do that, for the alternative is continued war between business and labor and government, and nobody wins a war; even the winner loses.

War between business and government will give us another slump next Summer or Fall—as soon as its results begin to show up—in a stagnation and failure to pass the constructive legislation which is needed.

Let's not have a stalemate between business and government. Let's go ahead.

Address at a meeting of the New York Purchasing Agents Association, Hotel Pennsylvania, November 15, 1938.

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"Welding" a Rubber Band . . . 500 Feet Long

A typical example of Goodrich development in rubber

CONVEYOR belts for transporting coal, rock, materials of all sorts, used to have ends tied together with metal fasteners. But in severe service the fasteners pulled out, had to be replaced, tore ends of the belt, made frequent repairs and expense necessary.

Belts could be made endless at the factory, but were then too cumbersome to put over the pulleys on most installations. Goodrich engineers wanted a better way. They developed a splice which will not tear out—like welded steel it makes a joint that will last as long as the body of the belt itself.

Then, working with a machinery maker, they developed a portable vulcanizer which can be transported easily, and "cures" the splice quickly.

Result is that a belt can be made endless *on the conveyor*, anywhere. Fasteners are done away with, maintenance cost is reduced, belt life is increased and often doubled or tripled.

This is typical of the research which goes on every day at Goodrich—research which has developed tanks to hold even nitric acid, transmission belts which flex 5 times as long as former belts, hose which stands 20,000

pounds pressure, synthetics to resist oil, sunlight, oxidation. Specify Goodrich to your distributor, and you automatically secure, in any rubber product you buy, all the advantages and improvements of all this Goodrich development. If for any reason you can't get Goodrich products conveniently and promptly, please write The B. F. Goodrich Company, Mechanical Rubber Goods Division, Akron, Ohio.

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(Another story of Goodrich development work appears on page 1)



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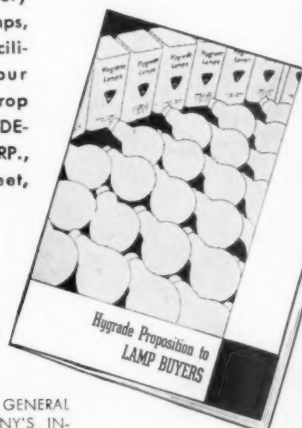
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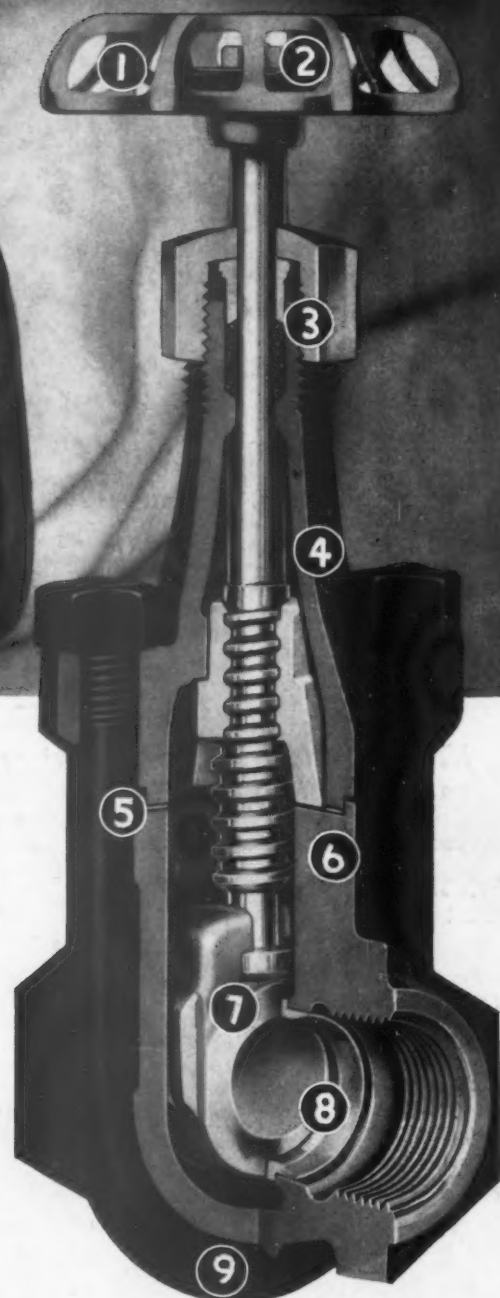
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